Airport Navigation Aid Database Application 2.0 (AIRNAV 2.0)

Supplementary Specification

Revision History

#	Version	Date	Description	By
1	V00R01	09/10/2007	Draft Version of the Document	Vishal Maheshwari / Frances K. Hubbard
2	V01R00	12/20/2007	First Version of the Document after incorporating the comments from Workgroup	Vishal Maheshwari / Frances K. Hubbard

Table of Content

1 Introduction

This document describes the Supplementary Specification for AIRNAV 2.0 system. The supplementary specifications are captured topic wise defined by individual sections.

2 Supplementary Specification

Any requirement which is either a global requirement (applicable across the whole of AIRNAV system) or cannot be represented in the iSM Use Case format will be identified as supplementary requirement and documented in this specification document under the appropriate sections.

2.1 Global

NOTE: The term 'Entity' in this section refers to an Airport, a Heliport, a Runway, a Helipad, a NAVAID, a NAVAID component, etc.

1. The coordinates will be validated as:
   a. Latitude (in Direction (N, S only), Degrees (0 to 90 only), Minutes (0 to 59 only), Seconds (0 to 59.9999999999999 only)) (Collectively coordinates cannot be greater than 90° i.e. value can range only between 0°00'00.0000" to 89°59'59.9999999999999").
   b. Longitude (in Direction (W, E only), Degrees (0 to 180 only), Minutes (0 to 59 only), Seconds (0 to 59.9999999999999 only)) (Collectively coordinates cannot be greater than 180° i.e. value can range only between 0°00'00.0000" to 179°59'59.9999999999999").
2. The MagVar/Year will be defined by following:
   a. Direction (East (E) or West (W) only)
   b. Value (00 to 99 number only)
   c. Epoch Year (> 1900 but < 2100 only).
3. Date will be displayed as mm/dd/yyyy. User will be able to enter the date with or without dashes and slashes. System will convert the date entered by user in correct format. In case system fails to format the user entered date into mm/dd/yyyy, system will display an appropriate message.
4. An audit trail of the changes made to a record in AIRNAV, person who made the changes and when the changes were made should be maintained.
5. System will display the navigation information of the path followed by the user to reach a particular screen on each screen.
6. System will allow the user to use the navigation path as link to go to other screens.
7. The 'Status' information is mandatory information, if Model selected is 'Publication'.
8. The 'State' information is mandatory information, if country is 'US'.
9. The information 'Service Area' and 'OCC Code' will be populated by the system based on the 'State' selected.
10. If the User decides to abort the whole process at anytime, system will display message informing the user that un-saved information will be lost and provide ability for user to save the information and then abort.
11. All entities in AIRNAV, which have been identified as following temporality, can be in any of the following models at any given point of time:
    a. Publication
    b. Future
    c. Test
12. Only an entity record within 'Publication' model can be in any of the following statuses at any given point of time in AIRNAV:
    a. Working
    b. Pending
    c. Active
    d. History
13. For models other than 'Publication', there are no statuses.

14. The Data Specialist will decide the model of the newly added entity record. The model options available will be:
    a. Publication
    b. Test
15. By default, a newly added entity record will have the model and status of 'Publication' and 'Working' respectively unless a different model and /or status is selected by the Data Specialist during the process of adding a new entity record.
16. Following table specifies the possible status change for an entity record within a 'Publication' model:

From \ To	Working	Pending	Active	History
Working	N/A	Yes (Data Specialist Only)	No	No
Pending	No	N/A	Yes (System Only)	No
Active	No	No	N/A	Yes (System Only)
History	No	No	No	N/A

17. System will automatically set the status of an entity record to
    a. 'Active' from 'Pending'
        i. On the publication date entered by Data Specialist in the system for a particular record.
           AND
        ii. (For NAVAID records only) The commission dates of the components are on or before the publication date of the NAVAID system record.
    b. 'History' from 'Active'
        i. When a new record of the entity becomes active
           OR
        ii. On the effective end date entered by the Data Specialist, while invoking the 'Cancel' operation on the existing active entity record.
18. At any given point of time, there will be only 1 active record for a given entity.
19. At any given point of time, there will be only 1 pending record for a given enity for a given publication date.
20. Any time a new entity record is created either through the 'Create Entity Version' process or through the 'Add Entity' process, system will force the user to enter the effective date on the entity record.
21. Revision Number will be pre-populated by the system with the progressive revision numbers for the given entity record. User will be able to change it.
22. No two versions of the same entity record will have same revision number, at a given point of time, within the system.
23. All ESV information, with the exception of Flight Inspection approval of ESV, within AIRNAV will be in display-only mode. All the display-only information will be pulled from ESVMS system using web services.
24. System will force the user to enter information in the attributes documented under the heading 'Contact Information' with the value for the attribute 'Contact Role' selected as 'Owner' only when the value selected in the attribute 'Owner' is one of the following (including but not limited to):
    a. Other
    b. State
    c. Private
    d. International Private
    e. International (Generic)
25. Following attributes documented under the heading 'Contact Information' are mutually exclusive. System will not allow the user to enter both sets of information on one record:
    a. Prefix Name, Last Name, First Name, Middle Initial, Suffix Name
       OR

b. Organization Name

26. Following sets of information are required under the heading 'Contact Information':
    a. Last Name, First Name
       OR
    b. Organization Name
27. Some of the attributes mentioned in the use case and business rules document are supposed to be geodetically calculated. The details of such attributes and their respective geodetic calculation must be discussed between development team and the subject matter experts and documented before development.

2.1.1 Search

28. All searches in AIRNAV will have the ability to do wildcard search.
29. System will allow different operators to be used for the search criterion matching.
30. User will enter value for one or more search criterion and system will return the results matching the complete combination of search criterion.
31. The user selected search criteria will be displayed on search results display.
32. Only 15 records will be displayed on the screen at any time.
33. In case there are more than 15 records in the search, User will have the ability to browse through all the records, 15 at a time (something like First, Previous, Next, Last).
34. User will have the ability to download the search results in various formats.

2.1.2 Add

35. System will perform a duplicate check on the entity record being added before saving the entity record to AIRNAV.

2.1.3 Edit

36. System will allow editing of a record based on the status of the record:
    a. Status as Working – Editing of record will be allowed as well as new version of the record can be created.
    b. Status as Future – Editing of record will be allowed.
    c. Status as Test – Editing of record will be allowed.
    d. Status as History – Editing of record will not be allowed.
    e. Status as Active – Editing of record will be allowed. User will only be able to edit information not having temporality. Also a new version of the record can be created.
    f. Status as Pending – Editing of record will be allowed as well as new version of the record can be created.

2.1.4 Delete

37. Entity record in the 'Publication' model with following statuses cannot be deleted from the system:
    a. Active
    b. History
38. Entity record in the 'Test' model can be deleted at any point of time.
39. Entity record in the 'Future' model can be deleted provided:
    a. There is no 'Effective Date' on the record
       OR
    b. The 'Effective Date' is not on or past the date the Entity record is being deleted.

2.1.5 Version

40. System will allow creating a new 'Working' version of 'Working', 'Pending' or 'Active' entity record.

41. System will not allow creating a 'Working' version of a 'Future' or 'Test' model entity record.

2.2 NAVAID and Components

42. System will automatically populate the attribute 'Broadcast Identifier' with NAVAID Identifier.
43. System will allow the user to change the value of the attribute 'Broadcast Identifier'.
44. System will automatically create mandatory component records based on the information entered by user in the component section.
45. The field 'Required' under the section 'Components' will be populated by the system based on the 'Type' selected.
46. System will allow recording multiple restrictions for a given NAVAID system.
47. System will allow recording multiple comments for a given NAVAID system.
48. System will allow recording multiple radarscope location for a given NAVAID system.
49. The attribute 'Other Owner' will be mandatory information, if the user selects the value of the attribute 'Owner' as 'Other'.
50. System will allow changing a NAVAID record of a particular NAVAID type to a NAVAID record of another NAVAID type. E.g. Changing the NAVAID record of NAVAID type 'Localizer' to a NAVAID record of NAVAID type 'ILS'.
51. Only following NAVAID type changes will be allowed:

#	Current NAVAID Type	Allowed Change to NAVAID Type	Comments
1	DME	TACAN	System automatically converts the DME component information to TACAN component information.
2	DME	VDME	System forces the user to enter the information on VOR before the upgrade is completed.
3	ILS	LOC	System automatically deletes the Glideslope information, but leaves the other components as is. User has to manually remove any other components.
4	LOC	ILS	System forces the user to enter the information on Glideslope before the upgrade is completed.
5	NDB/C	NDB/H	
6	NDB/C	NDB/M	
7	NDB/H	NDB/M	
8	NDB/H	NDB/C	
9	NDB/M	NDB/C	
10	NDB/M	NDB/H	
11	TACAN	VORTAC	System forces the user to enter the information on VOR before the upgrade is completed.
12	TACAN	DME	System automatically converts the TACAN component information to DME component information.
13	VDME	VOR	System automatically deletes the DME component information.
14	VDME	DME	System automatically deletes the VOR component information.
15	VDME	VORTAC	
16	VOR	VORTAC	System forces the user to enter the information on TACAN before the upgrade is completed.
17	VOR	VDME	System forces the user to enter the information on

			DME before the upgrade is completed.
18	VORTAC	VOR	System automatically deletes the TACAN component information.
19	VORTAC	TACAN	System automatically deletes the VOR component information.
20	VORTAC	VDME	

52. If there is a required component which is missing in the new NAVAID type during the NAVAID type change, System will prompt the user to add information about the missing required components.
53. If there is an extra required component in the old NAVAID type which is no more required in the new NAVAID type during the NAVAID type change, system will automatically remove the extra component.
54. System will automatically activate the component record(s) while activating the NAVAID System record.
55. System will not activate a NAVAID record associated with an airport and runway, if the airport and / or runway record is not active.
56. System will not activate an NAVAID record if it was created as a result of changing NAVAID type until the original NAVAID record is moved to status 'History'. (NOTE: The NAVAID type for the records may be different, but since one was created from other, the original NAVAID record must be converted to status 'History' before activating the new NAVAID record.)

Monique Pelletier

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Airport Associations Report

KOKC

WILL ROGERS WORLD

OK US

Runways

Rwy Number:17R True Bearing: 179.96 Status: A Landing Length: 9800
Threshold Latitude: N 35° 24' 21.4200" Gradient: -0.2 %
Threshold Longitude: W 097° 36' 20.6000"

Rwy Number:13 True Bearing: 135.06 Status: A Landing Length: 7800
Threshold Latitude: N 35° 24' 16.6000" Gradient: %
Threshold Longitude: W 097° 36' 57.2600"

Rwy Number:31 True Bearing: 315.07 Status: A Landing Length: 7800
Threshold Latitude: N 35° 23' 21.9900" Gradient: %
Threshold Longitude: W 097° 35' 50.7200"

Rwy Number:36 True Bearing: 359.97 Status: A Landing Length: 3079
Threshold Latitude: N 35° 23' 06.2700" Gradient: 0.1 %
Threshold Longitude: W 097° 36' 27.7800"

Rwy Number:35L True Bearing: 359.96 Status: A Landing Length: 9800
Threshold Latitude: N 35° 22' 44.5000" Gradient: 0.2 %
Threshold Longitude: W 097° 36' 20.5100"

Rwy Number:17L True Bearing: 179.96 Status: A Landing Length: 9802
Threshold Latitude: N 35° 24' 18.5700" Gradient: %
Threshold Longitude: W 097° 35' 20.2000"

Rwy Number:35L True Bearing: 359.96 Status: P Landing Length: 9800
Threshold Latitude: N 35° 22' 44.5000" Gradient: 0.2 %
Threshold Longitude: W 097° 36' 20.5100"

Rwy Number:35R True Bearing: 359.96 Status: A Landing Length: 9802
Threshold Latitude: N 35° 22' 41.6400" Gradient: %
Threshold Longitude: W 097° 35' 20.1100"

Rwy Number:18 True Bearing: 179.97 Status: A Landing Length: 3079
Threshold Latitude: N 35° 23' 36.7200" Gradient: -0.1 %
Threshold Longitude: W 097° 36' 27.8000"

Rwy Number:13 True Bearing: 135.06 Status: P Landing Length: 7800
Threshold Latitude: N 35° 24' 16.6000" Gradient: %
Threshold Longitude: W 097° 36' 57.2600"

Airport Associations Report

KOKC

WILL ROGERS WORLD

OK US

Runways

Rwy Number:31	True Bearing:	315.07	Status: P	Landing Length:	7800
Threshold Latitude:	N	35°	23'	21.9900"	Gradient:	%
Threshold Longitude:	W	097°	35'	50.7200"		
Rwy Number:18	True Bearing:	179.97	Status: P	Landing Length:	3079
Threshold Latitude:	N	35°	23'	36.7200"	Gradient:	-0.1 %
Threshold Longitude:	W	097°	36'	27.8000"		
Rwy Number:17R	True Bearing:	179.96	Status: P	Landing Length:	9800
Threshold Latitude:	N	35°	24'	21.4200"	Gradient:	-0.2 %
Threshold Longitude:	W	097°	36'	20.6000"		
Rwy Number:36	True Bearing:	359.97	Status: P	Landing Length:	3079
Threshold Latitude:	N	35°	23'	06.2700"	Gradient:	0.1 %
Threshold Longitude:	W	097°	36'	27.7800"		

Altimeters

Air ID	Type	Operation Start	Operation End	Field Altimeter Source
KOKC	L			AWO:
K123	R			AWO:
K1K4	R			AWO:
KCHK	R			AWO:
KHMY	R			AWO:
KO47	R			AWO:
KOJA	R			AWO:
KOUN	R			AWO:

Remarks

Topic	Priority	Date	Remark
SURVEY	1	11/07/05	NOS SURVEY DATED 03/04/92. 11/07/05: RWY 17R/35L ELEVATIONS SLIGHTLY MODIFIED PER DATA FROM FTW FPO WITH NEW ILS RWY 35L. CHANGES INSIGNIFICANT. ACTIVATE AFTER 11/23/06 10/16/06: RWY 18/36 TDZE ADDED PER FTW FPO BASED ON OC DATED 1992
NFDD	2	11/05/99	PER NFDD #047 DATED 03/11/98 RWY 18/36 EXTENDED ON SOUTH END TO 3079'
AWOS/ASOS	3	07/28/00	ASOS BROADCAST OVER ATIS (405) 682-4871

Airport Associations Report

KOKC

WILL ROGERS WORLD

OK US

Remarks

Topic	Priority	Date	Remark
PENDING CHANGES	4	07/19/06	PER FICO, 07/26/06, KEEP PENDING--PROC/A OPEN
			PENDING RWY--PER NFDD #120 DATED 06/22/06, RWY 35L VASI DELETED
			PENDING RWY 35L--MALSR ADDED. FUNDING #61133
			PENDING 17R PAPI DATA PROVIDED BY ANI-680, 10/30/06

GPS Procedures

Procedure Control	Description	Proc Type	Amendment	Owner
19259	RNAV (GPS) Y RWY 17L	PROC/V	ORGB	B
19548	RNAV (RNP) Z RWY 35R	PROC/P	ORIG	F
19549	RNAV (RNP) Z RWY 17L	PROC/P	ORIG	F
3817	RNAV (GPS) RWY 35R	PROC/N	ORGA	B
3815	RNAV (GPS) RWY 17R	PROC/N	1B	B
18272	RNAV (GPS) RWY 35L	PROC/S	2	B

SIAPS

Nav Id	Nav Type	Description	Amendment	Type
COL	VDME	TST RWY 17R	ORIG	E
EXR	ILS	ILS A RWY 13	ORIG	B
EXR	ILS	ILS OR LOC RWY 17L	1	B
EXR	ILS	ILS-F	1	B

NON IFP SIAPS

Nav Id	Nav Type	Description	Amendment	Type
OKC	ASR	RADAR RWY 17L	ORIG	B
OKC	ASR	RADAR RWY 17R	ORIG	B
OKC	ASR	RADAR RWY 35L	ORIG	B
OKC	ASR	RADAR RWY 35R	ORIG	B
OKC	ILS	ILS OR LOC RWY 17R	10A	B
RGR	ILS	ILS RWY 35R	8E	B
RGR	ILS	ILS RWY 35R (CAT II)	8E	B

Navaid Flight Procedure

Ident	Nav Type	Status	Country	Description	Amendment
EXR	ILS	Active	US	ILS A RWY 13	ORIG
EXR	ILS	Active	US	ILS OR LOC RWY 17L	1
EXR	ILS	Active	US	ILS-F	1
COL	VDME	Active	US	TST RWY 17R	ORIG

Receiver Checkpoint

Navaid Ident	Navaid Type	Status	Component Type
OKC	VOT	Active	VOT

Airport Associations Report

KOKC

WILL ROGERS WORLD

OK US

Associated Approach Path Monitor

Ident	APM Procedure Type
KOKC13	Straight-in
KOKC17P	Straight-in
KOKC35P	Straight-in

Airport Navigation Aid Database Application 2.0 (AIRNAV 2.0)

Use Case Model

Revision History

#	Version	Date	Description	By
1	V01R00	12/20/2007	First Version of the Document	Vishal Maheshwari / Frances K. Hubbard

Table of Content

1 Introduction

This document details the Use Case Model for AIRNAV 2.0 system. It provides a brief description of the actors and use cases for purpose of understanding and clarity.

2 List of Actors

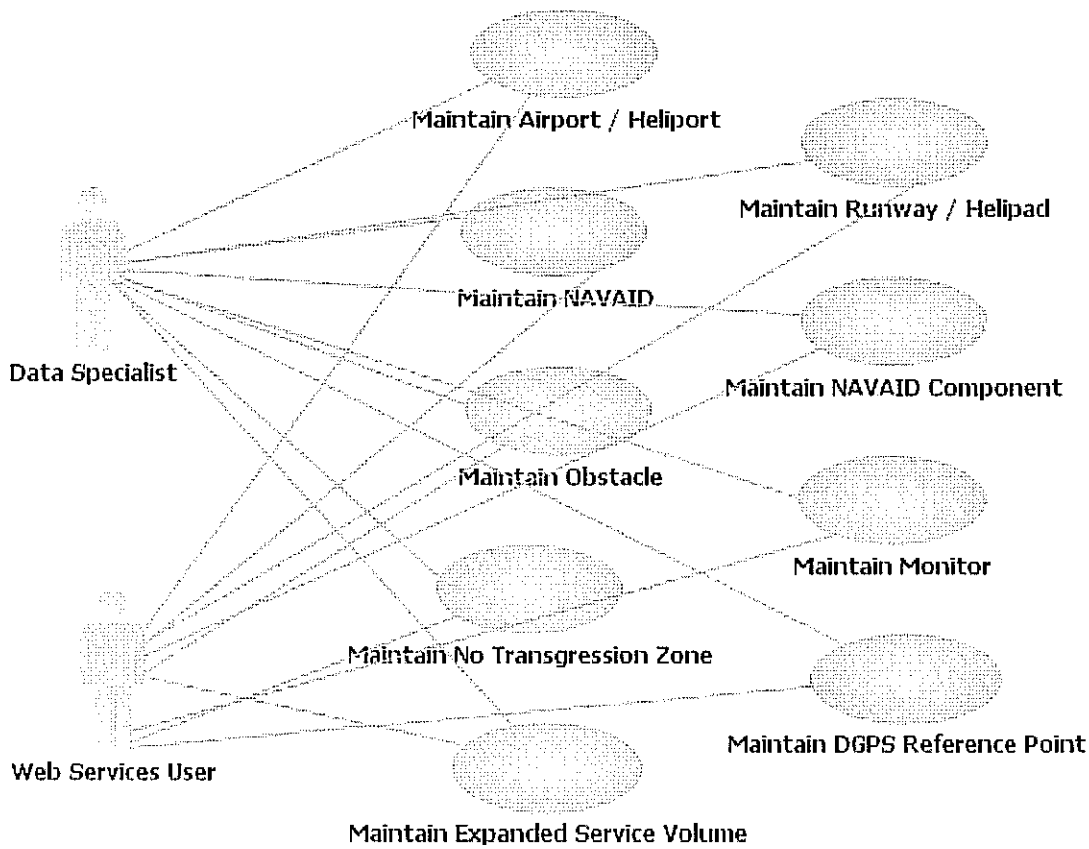
Following actors have been identified for AIRNAV 2.0 system:

1. Data Specialist
2. Web Services User

3 List of High Level Use Cases

Following are the high level use cases identified for AIRNAV 2.0 system:

1. Maintain Airport / Heliport
2. Maintain Runway / Helipad
3. Maintain NAVAID
4. Maintain NAVAID Component
5. Maintain Obstacle
6. Maintain Monitor
7. Maintain No Transgression Zone
8. Maintain DGPS Reference Point
9. Maintain Expanded Service Volume



4 Low Level Use Cases

4.1 Maintain Airport / Heliport

#	Use Case Name	Use Case Description
1	Add Airport / Heliport	This use case describes the process of adding a new airport / heliport record by a user.
2	Edit Airport / Heliport	This use case describes the process of editing an existing airport / heliport record by a user.
3	Search Airport / Heliport	This use case describes the process for searching airport / heliport record(s) by a user.
4	View Airport / Heliport	This use case describes the process of viewing an existing airport / heliport record by a user.
5	Delete Airport / Heliport	This use case describes the process of deleting an existing airport / heliport record by a user.
6	Activate Airport / Heliport	This use case describes the process of activating an existing pending airport / heliport record to active status by system automatically.
7	Create Airport / Heliport Version	This use case describes the process of creating a new version of an existing airport / heliport record by a user.
8	Change Active Airport / Heliport to History	This use case describes the process of pushing an existing active airport / heliport record to history status by system automatically.

4.2 Maintain Runway / Helipad

#	Use Case Name	Use Case Description
1	Add Runway / Helipad	This use case describes the process of adding a new runway / helipad record by a user.
2	Edit Runway / Helipad	This use case describes the process of editing an existing runway / helipad record by a user.
3	Search Runway / Helipad	This use case describes the process for searching runway / helipad record(s) by a user.
4	View Runway / Helipad	This use case describes the process of viewing an existing runway / helipad record by a user.
5	Delete Runway / Helipad	This use case describes the process of deleting an existing runway / helipad record by a user.
6	Activate Runway / Helipad	This use case describes the process of activating an existing pending runway / helipad record to active status by system automatically.
7	Create Runway / Helipad Version	This use case describes the process of creating a new version of an existing runway / helipad record by a user.
8	Change Active Runway / Helipad to History	This use case describes the process of pushing an existing active runway / helipad record to history status by system automatically.

4.3 Maintain NAVAID

#	Use Case Name	Use Case Description
1	Add NAVAID	This use case describes the process of adding a new NAVAID record by a user.
2	Edit NAVAID	This use case describes the process of editing an existing NAVAID record by a user.

3	Search NAVAID	This use case describes the process for searching NAVAID record(s) by a user.
4	View NAVAID	This use case describes the process of viewing an existing NAVAID record by a user.
5	Delete NAVAID	This use case describes the process of deleting an existing NAVAID record by a user.
6	Activate NAVAID	This use case describes the process of activating an existing pending NAVAID record to active status by system automatically.
7	Create NAVAID Version	This use case describes the process of creating a new version of an existing NAVAID record by a user.
8	Change Active NAVAID to History	This use case describes the process of pushing an existing active NAVAID record to history status by system automatically.

4.4 Maintain NAVAID Component

#	Use Case Name	Use Case Description
1	Add NAVAID Component	This use case describes the process of adding a new NAVAID component record by a user.
2	Edit NAVAID Component	This use case describes the process of editing an existing NAVAID component record by a user.
3	Search NAVAID Component	This use case describes the process for searching NAVAID component record(s) by a user.
4	View NAVAID Component	This use case describes the process of viewing an existing NAVAID component record by a user.
5	Delete NAVAID Component	This use case describes the process of deleting an existing NAVAID component record by a user.
6	Create NAVAID Component Version	This use case describes the process of creating a new version of an existing NAVAID component record by user.
7	Change Active NAVAID Component to History	This use case describes the process of pushing an existing active NAVAID component record to history status by system automatically.

4.5 Maintain Obstacle

#	Use Case Name	Use Case Description
1	Add Obstacle	This use case describes the process of adding a new obstacle record by a user.
2	Edit Obstacle	This use case describes the process of editing an existing obstacle record by a user.
3	Search Obstacle	This use case describes the process for searching obstacle record(s) by a user.
4	View Obstacle	This use case describes the process of viewing an existing obstacle record by a user.
5	Delete Obstacle	This use case describes the process of deleting an existing obstacle record by a user.

4.6 Maintain Monitor

#	Use Case Name	Use Case Description
1	Add Monitor	This use case describes the process of adding a new monitor record by a user.
2	Edit Monitor	This use case describes the process of editing an

		existing monitor record by a user.
3	Search Monitor	This use case describes the process for searching monitor record(s) by a user.
4	View Monitor	This use case describes the process of viewing an existing monitor record by a user.
5	Delete Monitor	This use case describes the process of deleting an existing monitor record by a user.

4.7 Maintain No Transgression Zone (NTZ)

#	Use Case Name	Use Case Description
1	Add NTZ	This use case describes the process of adding a new NTZ record by a user.
2	Edit NTZ	This use case describes the process of editing an existing NTZ record by a user.
3	Search NTZ	This use case describes the process for searching NTZ record(s) by a user.
4	View NTZ	This use case describes the process of viewing an existing NTZ record by a user.
5	Delete NTZ	This use case describes the process of deleting an existing NTZ record by a user.

4.8 Maintain DGPS Reference Point

#	Use Case Name	Use Case Description
1	Add DGPS Reference Point	This use case describes the process of adding a new DGPS Reference Point record by a user.
2	Edit DGPS Reference Point	This use case describes the process of editing an existing DGPS Reference Point record by a user.
3	Search DGPS Reference Point	This use case describes the process for searching DGPS Reference Point record(s) by a user.
4	View DGPS Reference Point	This use case describes the process of viewing an existing DGPS Reference Point record by a user.
5	Delete DGPS Reference Point	This use case describes the process of deleting an existing DGPS Reference Point record by a user.

4.9 Maintain Expanded Service Volume (ESV)

#	Use Case Name	Use Case Description
1	Add ESV	This use case describes the process of adding a new ESV record by a user.
2	Edit ESV	This use case describes the process of editing an existing ESV record by a user.
3	Search ESV	This use case describes the process for searching ESV record(s) by a user.
4	View ESV	This use case describes the process of viewing an existing ESV record by a user.
5	Delete ESV	This use case describes the process of deleting an existing ESV record by a user.

Approach Path Monitor

KOKC17P

Procedure Type: STRAIGHT-IN

Owner: F

Airport Ident: KOKC

Airport Name: WILL ROGERS WORLD

Airport Location: OKLAHOMA CITY, OK ,US

Program Code: D - NON-PREC - NO MONITOR, ORBIT, RECVR CKPT, SIAP, OR RADIAL OR SIAPS TO OPSNET AIRPORT ONLY {DF, ASR,

Associated Runway

Runway Number	Runway Status
17L	Active
17R	Pending
17R	Active

Associated Systems

Ident	Nav Type	State	Country	Status	Associated Type
EXR	ILS	OK	US	Active	SECONDARY
IRW	VORTAC	OK	US	Active	SECONDARY
OKC	NDB/M	OK	US	Active	SECONDARY
OKC	ASR	OK	US	Active	SECONDARY

Date: 12/09/07 7:13pm

* * * ILS INQUIRY - ACTIVE * * *

AIRPORT: DALLAS-FT WORTH INTERNATIONAL

Service Area: CNTL OCC: MID DATUMS Horz: NAD83 Vert: NAVD88 CTRY: US

ARPT-ID: KDFW RWY: 35R LCTN: DALLAS-FORT WORTH ST: TX REG:SW FIFO: OKC OWN: F

AL #:

* * * * AFIS DATA * * * *

ILS ID	AJQ	GS-ALN	3.00	FREQ	111.750	LC-BCB	180.27
APT-ID	KDFW	GS-WID	0.70	MVAR	E062000	LC-WID	4.20
TH-HGT	575	TH-DIS	1375	OM-DIS	28996	FC-ALN	1.0 - 0.0
RE-HGT	524	TH-LAT	N32-52-29.85	RW-BRG	0.27	BC-ALN	
RWY-ID	35R	TH-LON	W097-00-35.67	RW LEN	8500	UPDATE DIST	8500
CAT	III	DME DIS	8056	COUNTRY CODE	US	UPDATE ELV MSL	524.1
GS-LAT	N32-52-43.46	DME OFF	L501	ACTIVE FLAG	A	TH-ELLIP HGT	486.3
GS-LON	W097-00-35.59	DME HGT	529	LC-OFF		GEOID SEP	00000003
GS-HGT	561			LC-DIS	8160		
GS-OFF	L1			LC-FCB	0.27		

* * * LOCALIZER * * * (DFL CODE - ILS/L)

ANT LAT	N32-54-04.19	XMTR	DUAL	LOC-RE	1035 / .170	LCW-TAIL	YES
ANT LON	W097-00-35.15	EQUIP-TYPE	WL MK20	LOC-TH	9535 / 1.569	LCW-FT-TH	699
ELEV	519.3	STBY-POWER	B	LOC-IM	10267 / 1.690	DATE-COMM	05/12/96
ANT-TYPE	LOG-PER	ESV	N	LOC-MM	0 /	DATE-RECON	
DUAL-FREQ	YES	RESTRICTED	Y	LOC-OM	0 /	SURVEY-ACCY	8
US-DIST:	FC 5019/16.0	BC		LOC-FAF	39009 / 6.420	VOICE	NONE
CLRNC-CVG:	FC 90/35 150/5	BC		MON-AL-WID	W4.91 N3.49	REC TYPE	
CKPT-DESC:	FC POLKE INT I-AJQ 6.4 DME RADAR			BC			
LOC-WIDTH-MX-ALERT:	4.62 / 3.79			LOC-AL-MX-ALERT:	4uA	ROLLOUT	S
LOC-WIDTH-INITIAL:	4.78 / 3.62						

* * * GLIDE SLOPE * * * (DFL CODE - ILS/G)

ELEV	558.8	XMTR	DUAL	DIS-TH-PT-C	809.8 / .133	GS-ANT-OFF	R400
ANT-TYPE	CAP-EFF	EQUIP-TYPE	WL MK20	GS-TH	1375 / .226	MON-AL-ANG	H3.30 / L2.78
CL-ELEV-ABM	564.7	FREQ	333.350	GS-IM	2107 / .347	DATE-COMM	06/08/96
RDH	58.0(57.56)	ESV	N	GS-MM	0 /	DATE-RECON	
ELEV-FOR-CALC	REF	RESTRICTED	N	GS-OM	0 /	SURVEY-ACCY	8
AFIS-CORDS	AIMING PT	GPI-TH	1098.3	GS-FAF	30849 / 5.077	STBY-POWER	B
ANT: LAT	N32-52-43.44	RPI-TH	1375.0	AIM-PT:LAT	N32-52-43.46	CBP-TH	S
LON	W097-00-30.90			LON	W097-00-35.59		
GS-WID-MX-ALERT	.82 / .58	GS-ANG-MX-ALERT	3.12 / 2.88				

* * * ILS-DME * * * (DFL CODE - ILS/D)

LAT	N32-54-03.18	XMTR		DME-DIS-FAF/CHKPT	6.4	DATE-COMM	06/09/98
LON	W097-00-41.02	CHAN	54Y	DME-GS-ABM-DIST	8056	DATE-RECON	11/05/04
ELEV	529.0	RESTRICTED	N	DME-ANT-OFF	L501	SURVEY-ACCY	8
				DME-AER-DIST	9431	DME-SER-DIST	931

	* FAF *	* OUTER-MARKER *	* MIDDLE-MARKER *	* INNER-MARKER *
LAT				N32-52-22.61
LON				W097-00-35.71
ELEV				
DIST-TH	29474 / 4.851			732 / .120
DIST-DIR-CL				R0
DATE-COMM				05/13/96
DATE-RECON				
NAME/USE				IM
SURVEY-ACCY				8
TAPELINE	1616.7			110.4
EARTH-CURVE				0.0
MSL-ALTITUDE	2199.9			671.2
DFL CODE				ILS/MI

* * * * AIRPORT DATA * * * *

ARP-LAT	N32-53-48.58
ARP-LON	W097-02-16.79
FIELD-ELEV	607.0
FLD ELIP-ELEV	
TH-LAT	N32-52-29.85
TH-LON	W097-00-35.67
TH-ELEV	575.2
TH-ELIP-ELEV	486.3 E
RE-LAT	N32-53-53.95
RE-LON	W097-00-35.20
RE-ELEV	524.1
RE-ELIP-ELEV	435.2 E
RWY-LGTH/WIDTH	8500/150
DSPLCD-TH-DIST	
DSPLCD-TH-LAT	
DSPLCD-TH-LON	
DSPLCD-TH-ELEV	
DSP-TH-ELIP-ELE\	
RWY-LDG-LGTH	8500
TDZ-ELEV	575.2
FAR PART 139	Yes

DECISION-HEIGHTS:

DH	DIST/RALT	
(100)	810	96
(150)	0	0
(200)	0	0

PERFORMANCE-CLASS III / E /

FPC PUBLISHED Y

GENERAL DATA:

YR/MVAR	2000/E06
ICAO	K
BC-STATUS	
MON-CAT	1
REM-MON	DFW ATCT
	FULL-TIME 24 HOURS
NFPO-PROCEDURES	120

ASSOC-FACS

APL A C P Y Z

PROCEDURES DATA:

PSEUDO-GS-LAT	N00-00-00.00
PSEUDO-GS-LON	W000-00-00.00
PSEUDO-TH-LAT	N00-00-00.00
PSEUDO-TH-LON	W000-00-00.00
PSDO-GS-TO-PSDO-TH	0
LOC-CROSSES-C/L	0

RESTRICTION:

10/03/2003 LOC unusable byd 16 NM byd 5° right of course

ESV:

Date: 12/09/07 7:17pm

* * * ILS INQUIRY - ACTIVE * * *

AIRPORT: DALLAS-FT WORTH INTERNATIONAL

Service Area: CNTL OCC: MID DATUMS Horz: NAD83 Vert: NAVD88 CTRY: US

ARPT-ID: KDFW RWY: 17C LCTN: DALLAS-FORT WORTH ST: TX REG:SW FIFO: OKC OWN: F

AL #:

*** * * * AFIS DATA * * * ***

ILS ID	FLQ	GS-ALN	3.00	FREQ	110.300	LC-BCB	0.26
APT-ID	KDFW	GS-WID	0.70	MVAR	E062000	LC-WID	2.77
TH-HGT	562	TH-DIS	1100	OM-DIS	28996	FC-ALN	1.0 - 0.0
RE-HGT	562	TH-LAT	N32-54-56.54	RW-BRG	180.26	BC-ALN	
RWY-ID	17C	TH-LON	W097-01-33.50	RW LEN	13400	UPDATE DIST	13400
CAT	III	DME DIS	13296	COUNTRY CODE	US	UPDATE ELV MSL	562.2
GS-LAT	N32-54-45.66	DME OFF	R459	ACTIVE FLAG	A	TH-ELLIP HGT	472.9
GS-LON	W097-01-33.56	DME HGT	575.1	LC-OFF		GEOID SEP	89
GS-HGT	562			LC-DIS	13393		
GS-OFF	L1			LC-FCB	180.26		

*** * * LOCALIZER * * *** (DFL CODE - ILS/L)

ANT LAT	N32-52-33.15	XMTR	DUAL	LOC-RE	1093 / .180	LCW-TAIL	YES
ANT LON	W097-01-34.28	EQUIP-TYPE	WL MK20	LOC-TH	14493 / 2.385	LCW-FT-TH	701
ELEV	562.7	STBY-POWER	B	LOC-IM	15256 / 2.511	DATE-COMM	10/10/83
ANT-TYPE	LOG-PER	ESV	Y	LOC-MM	0 /	DATE-RECON	
DUAL-FREQ	YES	RESTRICTED	N	LOC-OM	0 /	SURVEY-ACCY	8
US-DIST:	FC 5100/25.0	BC		LOC-FAF	46185 / 7.601	VOICE	NONE
CLRNC-CVG:	FC 90/35 150/35	BC		MON-AL-WID	W3.24 N2.30	REC TYPE	
CKPT-DESC:	FC JIFFY I-FLQ 7.6 DME RADAR			BC			
LOC-WIDTH-MX-ALERT:	3.04 / 2.50			LOC-AL-MX-ALERT:	4uA	ROLLOUT	S
LOC-WIDTH-INITIAL:	3.15 / 2.39						

*** * * GLIDE SLOPE * * *** (DFL CODE - ILS/G)

ELEV	555.8	XMTR	DUAL	DIS-TH-PT-C	924.5 / .152	GS-ANT-OFF	L408
ANT-TYPE	CAP-EFF	EQUIP-TYPE	WL MK20	GS-TH	1100 / .181	MON-AL-ANG	H3.30 / L2.78
CL-ELEV-ABM	562.2	FREQ	335.000	GS-IM	1863 / .307	DATE-COMM	10/04/84
RDH	58.0(57.95)	ESV	N	GS-MM	0 /	DATE-RECON	09/18/05
ELEV-FOR-CALC	SITE	RESTRICTED	N	GS-OM	0 /	SURVEY-ACCY	0
AFIS-CORDS	AIMING PT	GPI-TH	1105.7	GS-FAF	32792 / 5.397	STBY-POWER	B
ANT: LAT	N32-54-45.64	RPI-TH	978.5	AIM-PT: LAT	N32-54-45.66	CBP-TH	S
LON	W097-01-28.77			LON	W097-01-33.56		
GS-WID-MX-ALERT	.82 / .58	GS-ANG-MX-ALERT	3.12 / 2.88				

*** * * ILS-DME * * *** (DFL CODE - ILS/D)

LAT	N32-52-34.13	XMTR	SINGLE	DME-DIS-FAF/CHKPT	7.6	DATE-COMM	08/14/92
LON	W097-01-39.65	CHAN	40X	DME-GS-ABM-DIST	13296	DATE-RECON	07/31/04
ELEV	575.1	RESTRICTED	N	DME-ANT-OFF	R459	SURVEY-ACCY	8
				DME-AER-DIST	14396	DME-SER-DIST	996

	* FAF *	* OUTER-MARKER *	* MIDDLE-MARKER *	* INNER-MARKER *
LAT				N32-55-04.09
LON				W097-01-33.46
ELEV				
DIST-TH	31692 / 5.216			763 / .126
DIST-DIR-CL				
DATE-COMM				09/04/83
DATE-RECON				09/07/05
NAME/USE				IM
SURVEY-ACCY				0
TAPELINE	1718.6			97.6
EARTH-CURVE				
MSL-ALTITUDE	2300.1			653.5
DFL CODE				ILS/MI

*** * * * AIRPORT DATA * * * ***

ARP-LAT	N32-53-48.58
ARP-LON	W097-02-16.79
FIELD-ELEV	607.0
FLD ELIP-ELEV	
TH-LAT	N32-54-56.54
TH-LON	W097-01-33.50
TH-ELEV	561.9
TH-ELIP-ELEV	472.9 E
RE-LAT	N32-52-43.96
RE-LON	W097-01-34.22
RE-ELEV	562.2
RE-ELIP-ELEV	473.6 S
RWY-LGTH/WIDTH	13400/150
DSPLCD-TH-DIST	
DSPLCD-TH-LAT	
DSPLCD-TH-LON	
DSPLCD-TH-ELEV	
DSP-TH-ELIP-ELE\	
RWY-LDG-LGTH	13400
TDZ-ELEV	562.4
FAR PART 139	Yes

DECISION-HEIGHTS:

DH	DIST/RALT	
(100)	925	100
(150)		
(200)		

PERFORMANCE-CLASS III / E /

FPC PUBLISHED

GENERAL DATA:

YR/MVAR	2000/E06
ICAO	K
BC-STATUS	
MON-CAT	1
REM-MON	DFW ATCT
	FULL-TIME 24 HOURS
NFPO-PROCEDURES	120

ASSOC-FACS

APL A C P Y Z

PROCEDURES DATA:

PSEUDO-GS-LAT	N00-00-00.00
PSEUDO-GS-LON	W000-00-00.00
PSEUDO-TH-LAT	N00-00-00.00
PSEUDO-TH-LON	W000-00-00.00
PSDO-GS-TO-PSDO-TH	0
LOC-CROSSES-C/L	0

RESTRICTION:

ESV:

DME	07/31/04	18-25 NM/3800-5100
LOC	03/31/97	25NM/5100

Date: 12/09/07 7:17pm

* * * ILS INQUIRY - ACTIVE * * *

AIRPORT: DALLAS-FT WORTH INTERNATIONAL

Service Area: CNTL OCC: MID DATUMS Horz: NAD83 Vert: NAVD88 CTRY: US

ARPT-ID: KDFW RWY: 17C LCTN: DALLAS-FORT WORTH ST: TX REG:SW FIFO: OKC OWN: F

AL #:

SIAPS:

Airld	State	Description	Amdt	Type	Airld	State	Description	Amdt	Type
KDFW	TX	CONVERGING ILS RWY 17C	5	B	KDFW	TX	ILS OR LOC RWY 17C	8	B

NON IFP SIAPS

Airld	State	Description	Amdt	Type	Airld	State	Description	Amdt	Type
KDFW	KDFW	ILS OR LOC RWY 17C	8	B					

REMARKS:

COMM IAW 8240.47C, 09/18/05. ARDH = 56.2, REF ELEV = 562.2, PROC TCH = 51.6, PROC GPI = 984.6 BASED ON SITE ELEV.

10/27/05 RWY LENGTH 13400, GS & IM RELOCATED, LOC CW, OM-TH DIST, DME-TH DIST, LOC-TH DIST MODIFIED DUE TO RWY EXTENSION, EFF 10/27/05. NEW DATA FROM ANI

11/05/99 LCW/CLR COMPARABILITY 03/31/97. LCA (2300' MSL)

11/05/99 DME SERVES RWY 17C (FLQ) & RWY 35C (PKQ).

11/05/99 NGS 405 SURVEY DATED 02/02/98

12/10/02 PER NFDD #208 DATED 10/28/02, MIDDLE MARKER DECOMMISSIONED

08/22/06 FLQ OM DECOMM EFF 06/08/06 PER NFDD #070 04/12/06

FAF-TH DISTANCE PROVIED BY AVN-100, 08/22/06

Date: 12/09/07 7:13pm

* * * ILS INQUIRY - ACTIVE * * *

AIRPORT: DALLAS-FT WORTH INTERNATIONAL

Service Area: CNTL OCC: MID DATUMS Horz: NAD83 Vert: NAVD88 CTRY: US

ARPT-ID: KDFW RWY: 35R LCTN: DALLAS-FORT WORTH ST: TX REG:SW FIFO: OKC OWN: F

AL #:

SIAPS:

Airld	State	Description	Amdt	Type	Airld	State	Description	Amdt	Type
KDFW	TX	ILS RWY 35R	2A	B	KDFW	TX	ILS RWY 35R (CAT II)	2A	B
KDFW	TX	ILS RWY 35R (CAT III)	2A	B					

ASSOCIATED APPROACH PATH MONITOR:

Ident	Procedure Type	Associated Type
KDFW35P	Straight-in	Primary

REMARKS:

COMM IAW 8240.47A, 06/08/96. ARDH = 63.6, REF ELEV = 560.7

08/17/06 PT. 47(A) AFIS RESULTS: RDH = 57.06; ARDH = 63.65; GPI = 1088.80; ELEV = 560.70 07/18/06

11/05/99 REF ELEVATION ADJUSTED BY FACTOR OF -.3' WITH VERTICAL DATUM CHANGE ON 02/02/98 ANA SURVEY.

11/05/99 NGS 405 SURVEY DATED 02/02/98

11/05/99 DME SERVES RWY 35R (AJQ) & RWY 17L(PPZ).

12/10/02 PER NFDD #208 DATED 10/28/02, MIDDLE MARKER DECOMMISSIONED

10/29/03 LCW CLR COMPARABILITY VERIFIED FROM LCA OF 2200' MSL UP TO 5100' MSL, USING PROCEDURE 1 IAW ORDER 8200.1B, PARA 217.3210B

08/21/06 AJQ OM DECOMM EFF 06/08/06 PER NFDD 070 04/12/06

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

State: OKLAHOMA
Country: UNITED STATES
Phone : (405)680-3200
Category: AIRPORT
FAR Part 139: Yes

Magnetic Variation/Year: E 07 1985
Site Nbr: 19136.A
Sectional Chart: DALLAS-FT WORTH
Survey Code: 6

Weather Station: Y
Control Tower: Y
Control Zone: Y
Control Zone Operational: F

Coordinates
Latitude: N 35° 23' 35.1600"
Longitude: W 097° 36' 02.6500"
Field Elevation: 1295.2
Elipsoid Elevation:
Horz. Datum: NAD83
Vert. Datum: NAVD88

Office
Flight Inspection: OKC
Procedure Development: 120
Region Code: SW
Service Area: CNTL
OCC Code: MID

Auto Weather
Weather Source: ASOS
Location: KOKC
Type: 3
Frequency:
Service A: Y

Altimeters

Type	Primary	Airport ID	Field Alt Source	Latitude	Longitude	Start	End
L	Yes	KOKC	AWOS	N 35° 23' 35.1600"	W 097° 36' 02.6500"	00:00	00:00

Runway List

17R A | 35L A | 17L A | 35R A | 13 A | 31 A | 18 A | 36 A | 17R P | 35L P | 13 P | 31 P | 18 P | 36 P

Runway Details

Landing Strip
Surface: ASPCON G | Width: 150 | Physical Length: 7800

Rwy Number: 13

Status: A Survey: 6

Threshold Markings: NPI - G
Latitude: N 35° 24' 16.6000"
Longitude: W 097° 36' 57.2600"
Elevation: 1278.7
Elipsoid Elev: 1191.1 E
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold
Latitude: ° ' "
Longitude: ° ' "
Elevation:
Elipsoid Elev:
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 7800
FI RWY Length: 7800
FI RWY Height: 1285.8
Tdz Elevation: 1278.7
True Bearing: 135.06
Ft Disp Th:
Gradient: %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: SUPLC 03/04/1992 NGS
Assoc. Fac: A: TESTX ILS (W)
YYYYYY LOC (W)
XTEST MLS (W)
XXXXX SDF (W)
TEST TLS (W)

KOKC13

VGSI Lights Type: VASI-4L
Owner: S Pilot Cntl Freq:
Th Cross Ht: 52
High Angle:
Com.Date: 05/22/1985
Com.Angle: 3.00
DWB Elev:
DWB Thres:
Ref Pt Lat: ° ' "
Ref Pt Long: ° ' "
Ref Pt Elev:
Ref PtThres:
Verified: N

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
REIL		S	03/10/1986	
MIRL		S	00/00/0000	

Rwy Number: 31

Status: A Survey: 6

Threshold Markings: NPI - G
Latitude: N 35° 23' 21.9900"
Longitude: W 097° 35' 50.7200"
Elevation: 1285.8
Elipsoid Elev: 1198.2 E
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold
Latitude: ° ' "
Longitude: ° ' "
Elevation:
Elipsoid Elev:
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 7800
FI RWY Length: 7800
FI RWY Height: 1278.7
Tdz Elevation: 1285.8
True Bearing: 315.07
Ft Disp Th:
Gradient: %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: SUPLC 03/04/1992 NGS
Assoc. Fac:

KOKC31

VGSI Lights Type: VASI-4L
Owner: S Pilot Cntl Freq:
Th Cross Ht: 52
High Angle:
Com.Date: 05/07/1985
Com.Angle: 3.00
DWB Elev:
DWB Thres:
Ref Pt Lat: ° ' "
Ref Pt Long: ° ' "
Ref Pt Elev:
Ref PtThres:
Verified: N

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
REIL		F	09/30/1988	
MIRL		S	00/00/0000	

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

Runway Details

Landing Strip

Surface:	ASPCON	G	Width:	150	Physical Length:	7800

Rwy Number: 13

Status: P Survey: 6

Threshold Markings: NPI - G

Latitude: N 35° 24' 16.6000"
Longitude: W 097° 36' 57.2600"
Elevation: 1278.7
Ellpsoid Elev: 1191.1 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 7800
FI RWY Length: 7800
FI RWY Height: 1285.8
Tdz Elevation: 1278.7
True Bearing: 135.06
Ft Disp Th:
Gradient: %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: SUPLC 03/04/1992 NGS
Assoc. Fac: A: TESTX ILS (W)
YYYYYY LOC (W)
XTEST MLS (W)
XXXXX SDF (W)
TEST TLS (W)

KOKC13

VGSI Lights Type: VASI-4L
Owner: S Pilot Cntl Freq:
Th Cross Ht: 52
High Angle:
Com.Date: 05/22/1985
Com.Angle: 3.00
DWB Elev:
DWB Thres:
Ref Pt Lat: ° ' "
Ref Pt Long: ° ' "
Ref Pt Elev:
Ref PtThres:
Verified: N

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
REIL		S	03/10/1986	
MIRL		S	00/00/0000	

Rwy Number: 31

Status: P Survey: 6

Threshold Markings: NPI - G

Latitude: N 35° 23' 21.9900"
Longitude: W 097° 35' 50.7200"
Elevation: 1285.8
Ellpsoid Elev: 1198.2 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 7800
FI RWY Length: 7800
FI RWY Height: 1278.7
Tdz Elevation: 1285.8
True Bearing: 315.07
Ft Disp Th:
Gradient: %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: SUPLC 03/04/1992 NGS
Assoc. Fac:

KOKC31

VGSI Lights Type: VASI-4L
Owner: S Pilot Cntl Freq:
Th Cross Ht: 52
High Angle:
Com.Date: 05/07/1985
Com.Angle: 3.00
DWB Elev:
DWB Thres:
Ref Pt Lat: ° ' "
Ref Pt Long: ° ' "
Ref Pt Elev:
Ref PtThres:
Verified: N

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
REIL		F	09/30/1988	
MIRL		S	00/00/0000	

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

Runway Details

Landing Strip

Surface:	ASPCON	G	Width:	150	Physical Length:	9802

Rwy Number: 17L — KOKC17L

Status: A Survey: 6

Threshold Markings: PIR - G

Latitude: N 35° 24' 18.5700"
Longitude: W 097° 35' 20.2000"
Elevation: 1286.4
Ellpsoid Elev: 1198.8 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
MALSR	2400	F	06/11/1996	
C/L		F	00/00/0000	
HIRL		S	00/00/0000	

Landing Length: 9802
Fl RWY Length: 9802
Fl RWY Height: 1282.8
Tdz Elevation: 1286.4
True Bearing: 179.96
Ft Disp Th:
Gradient: %
RVRTouchdown: Yes
MidPoint: Yes
Rollout: Yes
Rail: Yes

RWY Survey: D 03/04/1992 NGS
Assoc. Fac: A: EXR ILS (A)
FRANL LOC (W)
FRAN SDF (W)

Rwy Number: 35R — KOKC35R

Status: A Survey: 6

Threshold Markings: PIR - G

Latitude: N 35° 22' 41.6400"
Longitude: W 097° 35' 20.1100"
Elevation: 1282.8
Ellpsoid Elev: 1195.3 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
ALSF-2	2400	S	12/14/1988	
C/L		S	11/16/1989	
HIRL		S	02/02/1987	
TD ZON		S	00/00/0000	

Landing Length: 9802
Fl RWY Length: 9802
Fl RWY Height: 1286.4
Tdz Elevation: 1293.6
True Bearing: 359.96
Ft Disp Th:
Gradient: %
RVRTouchdown: Yes
MidPoint: Yes
Rollout: Yes
Rail: No

RWY Survey: PIR 03/04/1992 NGS
Assoc. Fac: A: RGR ILS (A) XYZ
ILS (W)

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

Runway Details

Landing Strip

Surface:	CONC	G	Width:	150	Physical Length:	9800

Rwy Number: 17R — KOKC17R

Status: A Survey: 6

Threshold Markings: PIR - F

Latitude: N 35° 24' 21.4200"
Longitude: W 097° 36' 20.6000"
Elevation: 1282.8
Ellpsoid Elev: 1194.9 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NAVD88

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
MALSR	2400	S	00/00/0000	
HIRL		S	00/00/0000	

Landing Length: 9800
Fl RWY Length: 9800
Fl RWY Height: 1263.4
Tdz Elevation: 1282.1
True Bearing: 179.96
Ft Disp Th:
Gradient: -0.2 %
RVRTouchdown: Yes
MidPoint:
Rollout: Yes
Rail: Yes

RWY Survey: PIR 03/04/1992 NGS
Assoc. Fac: A: OKC ILS (A) OKC ILS (P)

Rwy Number: 35L — KOKC35L

Status: A Survey: 6

Threshold Markings: PIR - F

Latitude: N 35° 22' 44.5000"
Longitude: W 097° 36' 20.5100"
Elevation: 1263.4
Ellpsoid Elev: 1175.6 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NAVD88

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 9800
Fl RWY Length: 9800
Fl RWY Height: 1282.8
Tdz Elevation: 1276.7
True Bearing: 359.96
Ft Disp Th:
Gradient: 0.2 %
RVRTouchdown: Yes
MidPoint:
Rollout: Yes
Rail: No

RWY Survey: C 03/04/1992 NGS
Assoc. Fac: A: LIK ILS (A)

VGSI Lights Type: VASI-6L

Owner: F Pilot Cntl Freq:
Th Cross Ht:
High Angle:
Com.Date: 00/00/0000
Com.Angle: 3.00
DWB Elev:
DWB Thres:
Ref Pt Lat: ° ' "
Ref Pt Long: ° ' "
Ref Pt Elev:
Ref PtThres:
Verified: N

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
REIL		F	05/22/1985	
HIRL		S	00/00/0000	

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

Runway Details

Landing Strip

Surface:	CONC	G	Width:	150	Physical Length:	9800

Rwy Number: 17R — KOKC17R

Status: P Survey: 6

Threshold Markings: PIR - F

Latitude: N 35° 24' 21.4200"
Longitude: W 097° 36' 20.6000"
Elevation: 1282.8
Ellpsoid Elev: 1194.9 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NAVD88

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 9800
Fl RWY Length: 9800
Fl RWY Height: 1263.4
Tdz Elevation: 1282.1
True Bearing: 179.96
Ft Disp Th:
Gradient: -0.2 %
RVRTouchdown: Yes
MidPoint:
Rollout: Yes
Rail: Yes

RWY Survey: PIR 03/04/1992 NGS
Assoc. Fac: A: OKC ILS (A) OKC ILS (P)

VGSI Lights Type: PAPI-4L

Owner: F Pilot Cntl Freq:
Th Cross Ht: 60
High Angle:
Com.Date: 11/14/2006
Com.Angle: 3.00
DWB Elev:
DWB Thres:
Ref Pt Lat: N 35° 24' 09.9700"
Ref Pt Long: W 097° 36' 20.5900"
Ref Pt Elev: 1282.1
Ref PtThres: 1158.0
Verified: Y

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
MALSR	2400	S	00/00/0000	
HIRL		S	00/00/0000	

Rwy Number: 35L — KOKC35L

Status: P Survey: 6

Threshold Markings: PIR - F

Latitude: N 35° 22' 44.5000"
Longitude: W 097° 36' 20.5100"
Elevation: 1263.4
Ellpsoid Elev: 1175.6 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NAVD88

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 9800
Fl RWY Length: 9800
Fl RWY Height: 1282.8
Tdz Elevation: 1276.7
True Bearing: 359.96
Ft Disp Th:
Gradient: 0.2 %
RVRTouchdown: Yes
MidPoint:
Rollout: Yes
Rail: Yes

RWY Survey: C 03/04/1992 NGS
Assoc. Fac: A: LIK ILS (A)

Lights

Config	Len	Owner	Com Dt	Pilot Cntrl
MALSR	2400	F	00/00/0000	
REIL		F	05/22/1985	
HIRL		S	00/00/0000	

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

Runway Details

Landing Strip

Surface:	ASPH	G	Width:	75	Physical Length:	3079

Rwy Number: 18 — KOKC18

Status: A Survey: 6

Threshold Markings: BSC - G

Latitude: N 35° 23' 36.7200"
Longitude: W 097° 36' 27.8000"
Elevation: 1274.7
Ellpsoid Elev: 1187.1 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 3079
Fl RWY Length: 3079
Fl RWY Height: 1271.3
Tdz Elevation: 1277.0
True Bearing: 179.97
Ft Disp Th:
Gradient: -0.1 %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: AV 03/04/1992 NGS
Assoc. Fac: A: FRANH ILS (W)
FKH ILS (W)

Rwy Number: 36 — KOKC36

Status: A Survey: 6

Threshold Markings: BSC - G

Latitude: N 35° 23' 06.2700"
Longitude: W 097° 36' 27.7800"
Elevation: 1271.3
Ellpsoid Elev: 1183.7 E
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Ellpsoid Elev:
Ellpsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 3079
Fl RWY Length: 3079
Fl RWY Height: 1274.7
Tdz Elevation: 1277.0
True Bearing: 359.97
Ft Disp Th:
Gradient: 0.1 %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: AV 03/04/1992 NGS
Assoc. Fac: A: ASF MLS (A)

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

Runway Details

Landing Strip

Surface:	ASPH	G	Width:	75	Physical Length:	3079

Rwy Number: 18 — KOKC18

Status: P Survey: 6

Threshold Markings: BSC - G

Latitude: N 35° 23' 36.7200"
Longitude: W 097° 36' 27.6000"
Elevation: 1274.7
Elipsoid Elev: 1187.1 E
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Elipsoid Elev:
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 3079
Fl RWY Length: 3079
Fl RWY Height: 1271.3
Tdz Elevation: 1277.0
True Bearing: 179.97
Ft Disp Th:
Gradient: -0.1 %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: AV 03/04/1992 NGS
Assoc. Fac: A: FRANH ILS (W)
FKH ILS (W)

Rwy Number: 36 — KOKC36

Status: P Survey: 6

Threshold Markings: BSC - G

Latitude: N 35° 23' 06.2700"
Longitude: W 097° 36' 27.7800"
Elevation: 1271.3
Elipsoid Elev: 1183.7 E
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Displaced Threshold

Latitude: ° ' "
Longitude: ° ' "
Elevation:
Elipsoid Elev:
Elipsoid Elev Model:
Horz. Datum: NAD83
Vert. Datum: NGVD29

Landing Length: 3079
Fl RWY Length: 3079
Fl RWY Height: 1274.7
Tdz Elevation: 1277.0
True Bearing: 359.97
Ft Disp Th:
Gradient: 0.1 %
RVRTouchdown:
MidPoint:
Rollout:
Rail: No

RWY Survey: AV 03/04/1992 NGS
Assoc. Fac: A: ASF MLS (A)

Remarks

Topic	Priority	Date	Remark
SURVEY	1	11/07/05	NOS SURVEY DATED 03/04/92. 11/07/05: RWY 17R/35L ELEVATIONS SLIGHTLY MODIFIED PER DATA FROM FTW FPO WITH NEW ILS RWY 35L. CHANGES INSIGNIFICANT. ACTIVATE AFTER 11/23/06 10/16/06: RWY 18/36 TDZE ADDED PER FTW FPO BASED ON OC DATED 1992
NFDD	2	11/05/99	PER NFDD #047 DATED 03/11/98 RWY 18/36 EXTENDED ON SOUTH END TO 3079'
AWOS/ASOS	3	07/28/00	ASOS BROADCAST OVER ATIS (405) 682-4871
PENDING CHANGES	4	07/19/06	PER FICO, 07/26/06, KEEP PENDING--PROC/A OPEN PENDING RWY--PER NFDD #120 DATED 06/22/06, RWY 35L VASI DELETED PENDING RWY 35L--MALSR ADDED. FUNDING #61133 PENDING 17R PAPI DATA PROVIDED BY ANI-680, 10/30/06

GPS Procedures

Procedure Control	Description	Proc Type	Amendment	Owner
19259	RNAV (GPS) Y RWY 17L	PROC/V	ORGB	B

Airport Detail for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

GPS Procedures

Procedure Control	Description	Proc Type	Amendment	Owner
19548	RNAV (RNP) Z RWY 35R	PROC/P	ORIG	F
19549	RNAV (RNP) Z RWY 17L	PROC/P	ORIG	F
3817	RNAV (GPS) RWY 35R	PROC/N	ORGA	B
3815	RNAV (GPS) RWY 17R	PROC/N	1B	B
18272	RNAV (GPS) RWY 35L	PROC/S	2	B

SIAPS

Nav Id	Nav Type	Description	Amendment	Type
COL	VDME	TST RWY 17R	ORIG	E
EXR	ILS	ILS A RWY 13	ORIG	B
EXR	ILS	ILS OR LOC RWY 17L	1	B
EXR	ILS	ILS-F	1	B

NON IFP SIAPS

Nav Id	Nav Type	Description	Amendment	Type
OKC	ASR	RADAR RWY 17L	ORIG	B
OKC	ASR	RADAR RWY 17R	ORIG	B
OKC	ASR	RADAR RWY 35L	ORIG	B
OKC	ASR	RADAR RWY 35R	ORIG	B
OKC	ILS	ILS OR LOC RWY 17R	10A	B
RGR	ILS	ILS RWY 35R	8E	B
RGR	ILS	ILS RWY 35R (CAT II)	8E	B

Associated Approach Path Monitor

Ident	APM Procedure Type
KOKC13	Straight-in
KOKC17P	Straight-in
KOKC35P	Straight-in

Airport Inquiry for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

State: OKLAHOMA
Country: UNITED STATES
Phone: (405)680-3200
Category: AIRPORT
FAR PART 139: Yes

Magnetic Variation/Year: E 07 1985
Site Nbr: 19136.A
Sectional Chart: DALLAS-FT WORTH
Survey Code: 6

Weather Station: Y
Control Tower: Y
Control Zone: Y
Control Zone Operational: F

Coordinates
Latitude: N 35° 23' 35.1600"
Longitude: W 097° 36' 02.6500"
Field Elevation: 1295.2
Elipsoid Elevation:
Horz. Datum: NAD83
Vert. Datum: NAVD88

Office
Flight Inspection: OKC
Procedure Development: 120
Region Code: SW
Service Area: CNTL
OCC Code: MID

Auto Weather
Weather Source: ASOS
Location: KOKC
Type: 3
Frequency:
Service A: Y

Altimeters

Type	Primary	Airport ID	Field Alt Source	Latitude	Longitude	Start	End
L	Yes	KOKC	AWOS	N 35° 23' 35.1600"	W 097° 36' 02.6500"	00:00	00:00

Runway List

17R A 35L A 17L A 35R A 13 A 31 A 18 A 36 A 17R P 35L P 13 P 31 P 18 P 36 P

Remarks

Topic	Priority	Date	Remark
SURVEY	1	11/07/05	NOS SURVEY DATED 03/04/92.
			11/07/05: RWY 17R/35L ELEVATIONS SLIGHTLY MODIFIED PER DATA FROM FTW FPO WITH NEW ILS RWY 35L. CHANGES INSIGNIFICANT. ACTIVATE AFTER 11/23/06
			10/16/06: RWY 18/36 TDZE ADDED PER FTW FPO BASED ON OC DATED 1992
NFDD	2	11/05/99	PER NFDD #047 DATED 03/11/98 RWY 18/36 EXTENDED ON SOUTH END TO 3079'
AWOS/ASOS	3	07/28/00	ASOS BROADCAST OVER ATIS (405) 682-4871
PENDING CHANGES	4	07/19/06	PER FICO, 07/26/06, KEEP PENDING--PROC/A OPEN
			PENDING RWY--PER NFDD #120 DATED 06/22/06, RWY 35L VASI DELETED
			PENDING RWY 35L--MALSR ADDED. FUNDING #61133
			PENDING 17R PAPI DATA PROVIDED BY ANI-680, 10/30/06

GPS Procedures

Procedure Control	Description	Proc Type	Amendment	Owner
19259	RNAV (GPS) Y RWY 17L	PROC/V	ORGB	B
19548	RNAV (RNP) Z RWY 35R	PROC/P	ORIG	F
19549	RNAV (RNP) Z RWY 17L	PROC/P	ORIG	F
3817	RNAV (GPS) RWY 35R	PROC/N	ORGA	B
3815	RNAV (GPS) RWY 17R	PROC/N	1B	B
18272	RNAV (GPS) RWY 35L	PROC/S	2	B

SIAPS

Nav Id	Nav Type	Description	Amendment	Type
COL	VDME	TST RWY 17R	ORIG	E
EXR	ILS	ILS A RWY 13	ORIG	B
EXR	ILS	ILS OR LOC RWY 17L	1	B

Airport Inquiry for KOKC(OKC)

WILL ROGERS WORLD
OKLAHOMA CITY
AL #:

SIAPS

Nav Id	Nav Type	Description	Amendment	Type
EXR	ILS	ILS-F	1	B

NON IFP SIAPS

Nav Id	Nav Type	Description	Amendment	Type
OKC	ASR	RADAR RWY 17L	ORIG	B
OKC	ASR	RADAR RWY 17R	ORIG	B
OKC	ASR	RADAR RWY 35L	ORIG	B
OKC	ASR	RADAR RWY 35R	ORIG	B
OKC	ILS	ILS OR LOC RWY 17R	10A	B
RGR	ILS	ILS RWY 35R	8E	B
RGR	ILS	ILS RWY 35R (CAT II)	8E	B

Associated Approach Path Monitor

Ident	APM Procedure Type
KOKC13	Straight-in
KOKC17P	Straight-in
KOKC35P	Straight-in

Date: 12/09/07 19:22 *** PRM MSP INQUIRY - ACTIVE ***

AIRPORT: MINNEAPOLIS-ST PAUL INTL/WOLD CHAMBERLAIN DATUMS Horz: NAD83 Vert: NGVD29 CTRY: US

ARPT-ID: KMSP LCTN: MINNEAPOLIS ST: MN REG:GL FIFO:BTL OWN: F

EQUIP-TYPE FA 10570	ANT-TYPE CP	PROCEDURE	120
DATE-COMM	ANT LAT N44-53-15.02	SURVEY-ACCY	0
DATE-RECON	ANT LON W93-13-22.57		

**** RUNWAY DATA ****

RWY: 12L / PJL

RWY-LGTH/WDTH	8200/150	TH-LAT	N44-53-34.62	DSPLCD-TH-LAT		RE-LAT	N44-52-52.51
DSPLCD-TH-DIST	0	TH-LON	W93-13-15.55	DSPLCD-TH-LON		RE-LON	W93-11-38.27
RWY-LDG-LGTH	8200	TH-ELEV	838.5	DSPLCD-TH-ELEV		RE-ELEV	819.4
RWY-BRG	121.33	TH-ELIP-ELEV	749.6 E	DSP-TH-ELIP-ELEV		RE-ELIP-ELEV	730.3 E

RWY: 12R / HKZ

RWY-LGTH/WDTH	10000/200	TH-LAT	N44-53-16.04	DSPLCD-TH-LAT		RE-LAT	N44-52-24.67
DSPLCD-TH-DIST		TH-LON	W93-14-02.86	DSPLCD-TH-LON		RE-LON	W93-12-04.25
RWY-LDG-LGTH	10000	TH-ELEV	841.2	DSPLCD-TH-ELEV		RE-ELEV	813.2
RWY-BRG	121.34	TH-ELIP-ELEV	752.4 E	DSP-TH-ELIP-ELEV		RE-ELIP-ELEV	724.1 E

RWY: 30L / MSP

RWY-LGTH/WDTH	10000/200	TH-LAT	N44-52-24.67	DSPLCD-TH-LAT		RE-LAT	N44-53-16.04
DSPLCD-TH-DIST		TH-LON	W93-12-04.25	DSPLCD-TH-LON		RE-LON	W93-14-02.86
RWY-LDG-LGTH	10000	TH-ELEV	813.2	DSPLCD-TH-ELEV		RE-ELEV	841.2
RWY-BRG	301.36	TH-ELIP-ELEV	724.1 E	DSP-TH-ELIP-ELEV		RE-ELIP-ELEV	752.4 E

RWY: 30R / INN

RWY-LGTH/WDTH	8200/150	TH-LAT	N44-52-52.51	DSPLCD-TH-LAT	N44-52-53.54	RE-LAT	N44-53-34.62
DSPLCD-TH-DIST	200	TH-LON	W93-11-38.27	DSPLCD-TH-LON	W93-11-40.64	RE-LON	W93-13-15.55
RWY-LDG-LGTH	8000	TH-ELEV	819.4	DSPLCD-TH-ELEV	819.6	RE-ELEV	838.5
RWY-BRG	301.34	TH-ELIP-ELEV	730.3 E	DSP-TH-ELIP-ELEV	730.9 E	RE-ELIP-ELEV	749.6 E

**** RUNWAY NTZ DATA ****

NTZ-ID: PJL VMD-ID: 1 DFL CODE: PRM DFL IDENT: PJL 12R; PJL 12L

BETWEEN:12R/HKZ, 12L/PJL DIST-CL-CL: 3380

POINT	LAT	LON	MAX-RANGE	MIN-RANGE	UPP-MSL	LOW-MSL
1	N45-01-25.19	W93-31-46.88	5	0	6000	0
2	N45-01-08.26	W93-32-01.23	32	5	8000	0
3	N44-51-45.81	W93-10-16.28				
4	N44-52-02.69	W93-10-01.87				

NTZ-ID: MSP VMD-ID: 2 DFL CODE: PRM DFL IDENT: MSP 30L; MSP 30R

BETWEEN:30L/MSP, 30R/INN DIST-CL-CL: 3380

POINT	LAT	LON	MAX-RANGE	MIN-RANGE	UPP-MSL	LOW-MSL
1	N44-54-22.39	W93-15-24.39	5	0	6000	0
2	N44-54-05.50	W93-15-38.81	32	5	8000	0
3	N44-44-39.94	W92-53-59.19				
4	N44-44-56.77	W92-53-44.72				

Date: 12/09/07 19:22

*** PRM MSP INQUIRY - ACTIVE ***

AIRPORT: MINNEAPOLIS-ST PAUL INTL/WOLD CHAMBERLAIN

DATUMS Horz: NAD83 Vert: NGVD29 CTRY: US

ARPT-ID: KMSP LCTN: MINNEAPOLIS ST: MN REG:GL FIFO:BTL OWN: F

**** VIDEO MAP DISPLAY (VMD) FILTER BOUNDARY ****

VMD ID 1 Asso RWY: 12R, 12L

POINT	LAT	LON	MAX-RANGE	MIN-RANGE	UPP-MSL	LOW-MSL
1	N45-05-47.74	W93-36-18.43	5	0	6000	0
2	N45-01-53.15	W93-39-37.32	32	5	8000	0
3	N44-49-07.51	W93-09-54.64				
4	N44-53-01.24	W93-06-34.47				

VMD ID 2 Asso RWY: 30L, 30R

POINT	LAT	LON	MAX-RANGE	MIN-RANGE	UPP-MSL	LOW-MSL
1	N44-57-00.33	W93-15-47.56	5	0	6000	0
2	N44-53-06.32	W93-19-07.34	32	5	8000	0
3	N44-40-15.36	W92-49-33.71				
4	N44-44-08.50	W92-46-12.69				

**** OTHER NTZ DATA ****

**** REMARKS ****

ate: 12/09/07 7:15pm *** COMMUNICATIONS INQUIRY *** Horz. Datum: UNKNOWN
Vert. Datum:

FAC-ID CVS		FAC-TYPE	TCOM/W			
LOCATION CANNON AFB, CLOVIS		STATE	NM	REG SW	FIFO OKC	OWN A
		COUNTRY	US			
LATITUDE	ELEVATION		ICAO	K	DATE-COMM	
LONGITUDE	SURVEY-ACCY	0	FIFO-PROCEDURES	120		
	ARTCC					

REQUENCIES

Airport Navigation Aid Database Application 2.0 (AIRNAV 2.0)

Airport and Runways Use Cases and Business Rules

Revision History

#	Version	Date	Description	By
1	V01R00	12/20/2007	First Version of the Document	Frances K. Hubbard / Vishal Maheshwari

Table of Content

1 Introduction

This document fully describes the functionality of the Maintain Airport and Maintain Runway modules within the AIRNAV 2.0 system. These requirements are captured in the AVN-iSM Use Case format. It details, from a user's perspective, the needs the system must address to capture information related to maintaining the airport, runways and lightings information in AIRNAV 2.0 system.

1.1 Abbreviations and Acronyms

Refer the document AIRNAV - Glossary for abbreviations, acronyms and other general terminology used in the AIRNAV documentation.

2 Use Cases

The Maintain Airport and Maintain Runway modules includes following use cases:

1. Search Airport / Heliport
2. Add Airport / Heliport
3. Edit Airport / Heliport
4. View Airport / Heliport
5. Delete Airport / Heliport
6. Activate Airport / Heliport
7. Create Airport / Heliport Version
8. Change Active Airport / Heliport to History
9. Search Runway
10. Add Runway
11. Edit Runway
12. View Runway
13. Delete Runway
14. Activate Runway
15. Create Runway Version
16. Change Active Runway to History

The details of each of the above mentioned use cases are described in this document.

2.1 Use Case Specification: Search Airport / Heliport

2.1.1 Brief Description

This use case describes the process of searching Airport / Heliport record(s) in AIRNAV system.

2.1.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.1.3 Pre – conditions

1. User must be logged in the system as one of the actors mentioned in section 2.1.2 above.
2. User must have the access privileges to search airport / heliport information.

2.1.4 Basic Flow of Events

1. User invokes the 'Search Airport / Heliport' functionality in the system.
2. System prompts the user to provide the search criteria for searching airport / heliport, including but not limited to:
    a. AIRNAV Identifier
    b. Status – Listing.
    c. ICAO Identifier
    d. NFDC Identifier
    e. Name
    f. Cities Served
    g. State – Listing.
    h. Country – Listing.
3. User enters a value for any combination of search criterion at the same time and selects to retrieve the records.
4. System displays a complete listing of airport / heliport records, which satisfy the user entered search criteria, sorted by their AIRNAV Identifier, status (order Active, Pending, Working) within identifier in a tabular format. The information displayed for each airport / heliport will be:
    a. Identifier
    b. Name
    c. Cities Served
    d. State
    e. Country
    f. Status
5. If no user records satisfy the user entered search criteria, system displays an appropriate message to the user.

2.1.5 Alternate Flows

There are no alternate flows in this use case.

2.1.6 Sub – flows

There are no sub-flows for this use case.

2.1.7 Key Scenarios

There are no key scenarios for this use case.

2.1.8 Post – Conditions

There are no post conditions for this use case.

2.1.9 Extension Points

There are no extension points for this use case.

2.1.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Airport / Heliport.

2.1.11 Additional Information

There is no additional information for this use case.

2.1.12 Business Rules

1. For each Airport / Heliport record in the search result, system will provide an ability, for users with appropriate access privileges, to directly navigate to:
    a. Edit display of that airport / heliport record
    b. View display of that airport / heliport record
2. On the search result, the system will provide an ability to directly navigate to the add airport / heliport display for users with appropriate access privileges.

2.2 Use Case Specification: Add Airport / Heliport

2.2.1 Brief Description

This use case describes the process of adding an Airport / Heliport record.

2.2.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.2.3 Pre – Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.2.2 above.
2. User has conducted 'Search Airport / Heliport' process and found no matching records.
3. User must have the access privileges to add airport / heliport information.

2.2.4 Basic Flow of Events

1. User selects to navigate to the add display.
2. System prompts the user to select a either airport or heliport type of record.
3. User selects a particular type of record.
4. System prompts the user to enter the information, including but not limited to, for the particular type of record:
    a. General Information
        i. AIRNAV Identifier - Mandatory information.
            1. ICAO Prefix - Listing
            2. AIRNAV Airport Identifier
        ii. NFDC Identifier
        iii. Site Number (NFDC's unique control number)
        iv. ICAO Indicator
        v. FAR Part 139 Indicator. Listing
        vi. Terminal Procedures Publication (TPP) Volume Number
        vii. Approach Landing (AL) Number
        viii. MagVar / Year
        ix. Name
        x. Cities Served - Multi-select Listing.
        xi. Location
        xii. State - Listing.
        xiii. Country - Listing.
        xiv. Generate Pseudo AIRNAV Identifier Indicator. Listing.
        xv. Model - Mandatory information. Listing.
        xvi. Status - Listing.
        xvii. Effective Date - Mandatory information. Listing.
        xviii. Effective End Date
        xix. Data Source - Listing.
        xx. Site Use Category - Listing.
        xxi. Airport Use - Listing.
        xxii. Owner - Listing.
        xxiii. Contact Information
            1. Contact Role
            2. Prefix Name
            3. Last Name
            4. First Name

5. Middle Initial
6. Suffix Name
7. Organizational Name
8. Address Line 1
9. Address Line 2
10. City
11. State - Listing.
12. Zip
13. Phone Number
14. Email
15. Remarks

xxiv. WAAS Available Indicator - Listing.
xxv. Polar Grid Used Indicator - Listing.
xxvi. Lowest Temperature
xxvii. Visual Flight Rules (VFR) Private Use Indicator - Listing.
xxviii. Official Use Indicator

b. Communications
   i. Control Tower Indicator- Listing.
c. Coordinates
   i. Airport Reference Point (ARP)
      1. Latitude
      2. Longitude
   ii. Field Elevation
      1. Value
      2. Unit of Measurement - Listing.
   iii. Ellipsoid Elevation
      1. Value
      2. Unit of Measurement - Listing.
      3. Source - Listing.
      4. Model - Listing.
   iv. Horizontal Datum - Listing.
   v. Horizontal Accuracy – Listing.
   vi. Vertical Datum - Listing.
   vii. Vertical Accuracy – Listing.
d. Offices
   i. Flight Inspection - Listing.
   ii. Procedure - Listing.
   iii. Region - Listing.
   iv. Service Area
   v. OCC Code
e. Altimeters
   i. Altimeter Type
   ii. Source Identifier - Listing.
   iii. Source Type - Listing.
   iv. Source Coordinates
      1. Latitude
      2. Longitude
   v. Source Elevation
      1. Value
      2. Unit of Measurement - Listing.
   vi. Primary Indicator - Listing.
   vii. Operation Timing
      1. Start
      2. End
   viii. Field Altimeter Source - Listing.
   ix. Distance from ARP

1. Value
2. Unit of Measurement - Listing.

x. Location Description

f. Weather
   i. Station - Listing.
   ii. Source
      1. Value - Mandatory information. Listing.
      2. Coordinates
         a. Latitude
         b. Longitude
      3. Elevation
   iii. Phone
   iv. Remarks
   v. Location - Mandatory information
   vi. Type - Mandatory information. Listing.
   vii. Frequency
   viii. Service A Indicator

g. Comments
   i. Priority
   ii. Topic – Listing.
   iii. Date
   iv. Remark

5. User enters the information and selects to save the airport / heliport record in the system.
6. System adds the airport / heliport record and displays an appropriate message to the user.
7. If the system fails to add the airport / heliport record with the information as entered by the user, system displays an appropriate message to the user.

2.2.5 Alternate Flows

There are no alternate flows in this use case.

2.2.6 Sub – flows

There are no sub-flows for this use case.

2.2.7 Key Scenarios

There are no key scenarios for this use case.

2.2.8 Post – Conditions

1. A new Airport / Heliport record is added to the system and is searchable.

2.2.9 Extension Points

There are no extension points for this use case.

2.2.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Airport / Heliport.

2.2.11 Additional Information

There is no additional information for this use case.

2.2.12 Business Rules

1. System will provide an ability to:
    a. navigate back to search display from the add display without adding a new record.
    b. clear the entire user entered information and any dependent information before record is added to the system.
    c. navigate to add runway / helipad display from the add display after mandatory information for the airport / heliport has been entered by the user in the system.
    d. navigate to edit runway / helipad display from the add display.
    e. navigate to view runway / helipad display from the add display.
2. The attribute 'TPP Volume Number' will be a display only attribute.
3. The information in the attribute 'TPP Volume Number' will be populated by PTS (Procedure Tracking System) by invoking a service on NACO system.
4. The attribute 'Official Use Indicator' will be a display only attribute.
5. If user selects 'Military' as the value for attribute 'Airport Use' and selects country other than 'US' as the value for attribute 'Country', then the system will automatically set the attribute 'Official Use Indicator' to 'Yes'.
6. Only user(s) with permission to access the Official Use records will be able to access airport records, where the attribute 'Official Use Indicator' is set to 'Yes', through web services in AIRNAV.
7. The attribute 'Location' will be concatenation of all the cities selected in the attribute 'Cities Served' with a slash in between the name of cities.
8. Complete information including slashes in the attribute 'Location' will be editable by the user.
9. The attribute 'Airport Use' will have following options (including, but not limited to):
    a. Military
    b. Civil
    c. Joint (Military / Civil)
    d. Private
10. The information 'Service Area' and 'OCC Code' will be populated by the system based on the 'State' selected.
11. For the attributes 'Field Elevation Value' and 'Ellipsoid Elevation Value', the allowed values are -1338 to 99999.9 (including -1338 and 99999.9).
12. User will be able to associate only a runway to a record where the attribute 'Site Use Category' is selected as 'Airport' by the user.
13. User will be able to associate both a runway and a helipad to a record where the attribute 'Site Use Category' is selected as 'Airport / Heliport' by the user.
14. User will be able to associate only a helipad to a record where the attribute 'Site Use Category' is selected as 'Heliport' by the user.
15. If the user selects the value for the attribute 'VFR Private Use Indicator' as 'Yes', the user will be able to over-write every calculated field for that airport / heliport.
16. System will warn the user that the re-calculation of ARP is needed, including but not limited to, on meeting of any of the following conditions:
    a. Change in the value of Field Elevation
    b. Shortening or Lengthening of Runway associated with Airport record
    c. Addition or Removal of Runway associated with Airport record.

    User will have the option to either re-calculate the ARP or not.
17. System will force the user to re-calculate the value of Ellipsoid Elevation, if there is any change in the value of Field Elevation.
18. System will not force or warn the user to re-calculate the value of Field Elevation, if there is any change in the value of Ellipsoid Elevation.
19. If the user selects the attribute 'Generate Pseudo AIRNAV Identifier' as 'Yes', then the system will automatically generate a numeric AIRNAV Airport Identifier. User will manually enter the ICAO Prefix.

20. System will not allow user to associate more than one altimeter as type 'Local' to one airport record.
21. System will allow the user to select DGPS Reference Points to be associated to an airport record from a list of such points.
22. System will allow user to associate up to 3 different DGPS Reference Points to one airport record.
23. System will allow the user to select following options (including but not limited to) in the attribute 'Source Type' under the altimeter section:
    a. Airport
    b. NAVAID
    c. Other
24. System will allow the user to select either an active Airport Identifier or an active NAVAID Identifier based on the whether user selects the value of the attribute 'Source Type' as Airport or NAVAID, respectively.
25. System will automatically populate the latitude, longitude and elevation information on altimeter, if the attribute 'Source Type' is selected as 'Airport', with the latitude, longitude, elevation from the weather source associated with that airport. If the latitude, longitude, and elevation of the weather source associated with the Airport are not available, system will use the ARP / HRP and elevation of the airport / heliport to populate the latitude, longitude and elevation information on altimeter.
26. System will automatically populate the latitude, longitude and elevation information on altimeter, if the attribute 'Source Type' is selected as 'NAVAID', with the latitude, longitude, elevation on the NAVAID record selected by user.
27. System will allow the user to manually enter the altimeter type, latitude, longitude and elevation information on an altimeter, if the user selects the value of the attribute 'Source Type' as 'Other'.
28. System will default the attribute 'Primary Indicator' to 'Yes', if the attribute 'Altimeter Type' is set to 'Local'.
29. System will allow the user to select following options (including but not limited to) in the attribute 'Altimeter Type' under the altimeter section:
    a. Remote
    b. Local
30. System will allow the user to select following options (including but not limited to) in the attribute 'source' under the coordinates → ellipsoid elevation section:
    a. Estimated / Calculated (E)
    b. Surveyed (S)
31. The value for the attribute 'Distance from ARP' under the altimeter section will be geodetically calculated as the distance between the altimeter and the ARP. It will be a web service.
32. System will allow the user to select following options (including but not limited to) in the attribute 'value' under the weather → source section:
    a. ASOS
    b. AWOS
    c. AWSS
    d. Mobile
33. System will provide a provision for documenting the restrictions at airport level. Requirements need to be discussed and finalized.

2.3 Use Case Specification: Edit Airport / Heliport

2.3.1 Brief Description

This use case describes the process of editing an existing Airport / Heliport record.

2.3.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.3.3 Pre – Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.3.2 above.
2. User has conducted 'Search Airport / Heliport' process and selected a pending or working Airport / Heliport record for editing.
3. User must have the access privileges to edit airport / heliport information.

2.3.4 Basic Flow of Events

1. User selects to navigate to edit display for a particular airport / heliport record.
2. System invokes a service on the IFPA Enterprise requesting associated record(s) to the selected airport / heliport.
3. IFPA Enterprise finds no associated record(s) in a non-editable mode to the selected airport / heliport record.
4. System displays the selected airport / heliport record in the edit mode.
5. User makes the necessary changes to the record information and selects to save the changed airport / heliport record in the system.
6. System saves the airport / heliport record with the changed information and displays an appropriate message to the user.
7. If the system fails to save the airport / heliport record with the changed information as entered by the user, system displays an appropriate message to the user.

2.3.5 Alternate Flows

2.3.5.1 Associated Record(s) from IFPA Enterprise

1. User selects to navigate to edit display for a particular airport / heliport record.
2. System invokes a service on the IFPA Enterprise requesting associated record(s) to the selected airport / heliport.
3. IFPA Enterprise returns a list of associated record(s) in non-editable mode and their respective owner(s) to the selected airport / heliport record.
4. System does not allow the edit of the airport / heliport record and displays the list of associated record(s) and their respective owner(s) to the user.

2.3.6 Sub – flows

There are no sub-flows for this use case.

2.3.7 Key Scenarios

There are no key scenarios for this use case.

2.3.8 Post – Conditions

1. A changed airport / heliport record is saved to the system and is searchable based on the changed information.

2.3.9 Extension Points

There are no extension points for this use case.

2.3.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Airport / Heliport.

2.3.11 Additional Information

There is no additional information for this use case.

2.3.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to
    a. navigate back to search display from the edit display without making any changes to the selected record.
    b. cancel the changes made by user to the record before the changed record is saved to the system.
    c. navigate to add Runway / Helipad display from the edit display.
    d. navigate to edit runway / helipad display from the edit display.
2. Refer to Business Rules section of the use case: 'Add Airport / Heliport' for other requirements.

2.4 Use Case Specification: View Airport / Heliport

2.4.1 Brief Description

This use case describes the process of viewing an existing Airport / Heliport record.

2.4.2 Actors

Following are the actors for this use case:

1. Data Specialist

2.4.3 Pre – Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.4.2 above.
2. User has conducted 'Search Airport / Heliport' process and selected an airport / heliport record for viewing.
3. User must have the access privileges to view airport / heliport information.

2.4.4 Basic Flow of Events

1. User selects to navigate to view display for a particular airport / heliport record.
2. System displays the selected airport / heliport record in the view mode.

2.4.5 Alternate Flows

There are no alternate flows in this use case.

2.4.6 Sub – flows

There are no sub-flows for this use case.

2.4.7 Key Scenarios

There are no key scenarios for this use case.

2.4.8 Post – Conditions

There are no post-conditions for this use case.

2.4.9 Extension Points

There are no extension points for this use case.

2.4.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Airport / Heliport.

2.4.11 Additional Information

There is no additional information for this use case.

2.4.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to:
    a. navigate back to search display from the view display.
    b. navigate to view runway / helipad record display from the view airport / heliport display.

c. create new version of airport / heliport record from the view airport / heliport display.

2.5 Use Case Specification: Delete Airport / Heliport

2.5.1 Brief Description

This use case describes the process of deleting an existing working or pending Airport / Heliport record. The delete here refers to the physical deletion of the airport / heliport record.

2.5.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.5.3 Pre – Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.5.2 above.
2. User has conducted 'Search Airport / Heliport' process and selected a working or pending Airport / Heliport record for deleting.
3. User must have the access privileges to delete airport / heliport information.

2.5.4 Basic Flow of Events

1. User selects to delete a particular working or pending airport / heliport record from AIRNAV.
2. System invokes a service on the IFPA Enterprise requesting associated record(s) to the selected airport / heliport.
3. IFPA Enterprise finds no associated record(s) to the selected airport / heliport record.
4. System deletes the selected airport / heliport record and all the child records from the system and displays an appropriate message to the user.
5. If the system fails to delete the selected airport / heliport record, system displays an appropriate message to the user.

2.5.5 Alternate Flows

2.5.5.1 Associated Record(s) from IFPA Enterprise

1. User selects to delete an airport / heliport record from AIRNAV.
2. System invokes a service on the IFPA Enterprise requesting associated record(s) to the selected airport / heliport record.
3. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) to the selected airport / heliport record.
4. System does not allow the delete of the airport / heliport record and displays the list of associated record(s) and their respective owner(s) to the user.

2.5.6 Sub – flows

There are no sub-flows for this use case.

2.5.7 Key Scenarios

There are no key scenarios for this use case.

2.5.8 Post – Conditions

1. The selected airport / heliport record will be deleted from the system.
2. The deleted airport /heliport record will not be searchable in the system.

2.5.9 Extension Points

There are no extension points for this use case.

2.5.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to Airport / Heliport.

2.5.11 Additional Information

There is no additional information for this use case.

2.6 Use Case Specification: Activate Airport / Heliport

2.6.1 Brief Description

This use case describes the process of changing the status of a 'Pending' Airport / Heliport record to 'Active'.

2.6.2 Actors

Following are the actors for this use case:

1. AIRNAV - Internal

2.6.3 Pre-Conditions

1. Airport / Heliport record(s) in 'Publication' model with status 'Pending'.

2.6.4 Basic Flow of Events

1. System retrieves the version of airport / heliport records in 'Publication' model with status 'Pending' and publication date as the system date.
2. System sets the status of currently 'Active' version of the airport / heliport records, retrieved in step # 1 above, to 'History'.
3. System sets the status of the retrieved version of airport / heliport records, as per step # 1 above, to 'Active'.

2.6.5 Alternate Flows

There are no alternate flows for this use case.

2.6.6 Sub-flows

There are no sub-flows for this use case.

2.6.7 Key Scenarios

There are no key scenarios for this use case.

2.6.8 Post-Conditions

1. All the currently 'Active' version of the airport / heliport records within the 'Publication' model, whose 'Pending' version will become active, are converted to 'History' version of the airport / heliport records.
2. All the 'Pending' version of the airport / heliport records within the 'Publication' model with publication date as system date are converted to 'Active' version of the airport / heliport records.

2.6.9 Extension Points

There are no extension points for this use case.

2.6.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to Airport / Heliport.

2.6.11 Additional Information

There is no additional information for this use case.

2.7 Use Case Specification: Create Airport / Heliport Version

2.7.1 Brief Description

This use case describes the process of creating a new version of an existing Airport / Heliport record.

2.7.2 Actors

Following are the actors for this use case:

1. Data Specialist

2.7.3 Pre-Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.7.2 above.
2. User has conducted the 'View Airport / Heliport' process for the selected Airport / Heliport record.
3. User must have the access privileges to create a new version of existing airport / heliport information.

2.7.4 Basic Flow of Events

1. User selects to create a new version of the Airport / Heliport record.
2. System creates a new airport / heliport record with status as 'Working' and displays the new airport / heliport record in an edit mode.
3. User makes the necessary changes to the information of the newly created version of the airport / heliport record and selects to save the airport / heliport record in the system.
4. System saves the new version of the airport / heliport record with the changed information and displays an appropriate message to the user.
5. If the system fails to save the new version of the airport / heliport record with the changed information as entered by the user, system displays an appropriate message to the user.

2.7.5 Alternate Flows

There are no alternate flows for this use case.

2.7.6 Sub-flows

There no sub-flows for this use case.

2.7.7 Key Scenarios

There are no key scenarios for this use case.

2.7.8 Post-Conditions

1. A new version of the record with status 'Working' is saved in the system.

2.7.9 Extension Points

There are no extension points for this use case.

2.7.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to Airport / Heliport.

2.7.11 Additional Information

There is no additional information for this use case.

2.8 Use Case Specification: Change Active Airport / Heliport to History

2.8.1 Brief Description

This use case describes the process of pushing an existing active Airport / Heliport record to history status by system automatically.

2.8.2 Actors

Following are the actors for this use case:

1. AIRNAV - Internal

2.8.3 Pre-Conditions

1. Airport / Heliport record(s) in 'Publication' model with status 'Pending'.
   OR
   Existing active airport / heliport record(s) with effective end date.

2.8.4 Basic Flow of Events

1. System retrieves the version of airport / heliport record(s) in 'Publication' model with status 'Pending' and publication date as the system date.
2. System retrieves the version of airport / heliport record(s) in 'Publication' model with status 'Active' and effective end date as the system date.
3. System sets the status of currently 'Active' version of the airport / heliport record(s), retrieved in step # 1 and # 2 above, to 'History'.

2.8.5 Alternate Flows

There are no alternate flows for this use case.

2.8.6 Sub-flows

There are no sub-flows for this use case.

2.8.7 Key Scenarios

There are no key scenarios for this use case.

2.8.8 Post-Conditions

1. All the currently 'Active' version of the airport / heliport record(s) within the 'Publication' model, whose 'Pending' version will become active as their publication date is same as the system date, are converted to 'History' version of the airport / heliport record(s).
2. All the 'Active' version of the airport / heliport record(s), whose effective end date is same as system date, are converted to 'History' version of the airport / heliport record(s).

2.8.9 Extension Points

There are no extension points for this use case.

2.8.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to Airport / Heliport.

2.8.11 Additional Information

There is no additional information for this use case.

2.9 Use Case Specification: Search Runway / Helipad

2.9.1 Brief Description

This use case describes the process for searching runway / helipad record(s) in AIRNAV by a user.

2.9.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.9.3 Pre-Conditions

1. The user must be logged in the system as one of the actors mentioned in section 2.9.2 above.
2. User must have the access privileges to search runway / helipad information.
3. User has performed the Search Airport function and selected the appropriate Airport.

2.9.4 Basic Flow of Events

1. User invokes the 'Search Runway / Helipad' process within the 'Airport and Runway' functionality in the system.
2. System displays a complete listing of runway records at the selected Airport sorted by their runway use category, airport within runway use category and status (order Active, Pending, Working) within airport within runway use category in a tabular format. The information displayed for each runway will be:
    a. Runway Use Category
    b. AIRNAV Runway Identifier
    c. Helipad Identifier
    d. Airport
    e. Status
3. If no user records satisfy the user entered search criteria, system displays an appropriate message to the user.

2.9.5 Alternate Flows

There are no alternate flows for this use case.

2.9.6 Sub-flows

There are no sub-flows for this use case.

2.9.7 Key Scenarios

There are no key scenarios for this use case.

2.9.8 Post-Conditions

There are no post conditions for this use case.

2.9.9 Extension Points

There are no extension points for this use case.

2.9.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Runway / Helipad.

2.9.11 Additional Information

There is no additional information for this use case.

2.9.12 Business Rules

1. For each runway / helipad record in the search result, system will provide an ability, for users with appropriate access privileges, to directly navigate to
    a. edit display of that runway / helipad record
    b. view display of that runway / helipad record
2. The attribute 'Airport' will be a mandatory search criterion for the search runway / helipad functionality.

2.10 Use Case Specification: Add Runway / Helipad

2.10.1 Brief Description

This use case describes the process of adding a new runway / helipad record by a user.

2.10.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.10.3 Pre-Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.10.2 above.
2. User is performing the 'Add Airport / Heliport' or 'Edit Airport / Heliport' process and selects to add a new runway / helipad.
3. User must have the access privileges to add runway / helipad information.

2.10.4 Basic Flow of Events

1. User selects to navigate to the add runway / helipad display.
2. System prompts the user to select either a runway or a helipad.
3. User selects a particular type of record.
4. System prompts the user to enter the information, including but not limited to, for the particular type of record:
    a. Runway Information
        i. General Information
            1. AIRNAV Runway Identifier
                a. Number
                b. Designation
            2. Helipad Identifier
            3. Runway Use Category
            4. Data Source - Listing.
            5. Runway Identifier
            6. Markings
                a. Type - Listing.
                b. Condition – Listing.
            7. Runway Visual Range (RVR)
                a. Touchdown - Listing.
                b. Mid-point - Listing.
                c. Rollout - Listing.
            8. Runway Declared Distance
                a. TORA
                b. TODA
                c. ASDA
                d. LDA
                e. Remarks
            9. Model – Mandatory information. Listing.
            10. Status – Listing.
            11. Revision Number – Mandatory information.
            12. Effective Date – Mandatory information. Listing.
            13. Effective End Date
        ii. Threshold Information
            1. Coordinates

a. Latitude
b. Longitude

2. Elevation
   a. Value
   b. Unit of Measurement – Listing
   c. Source - Listing
   d. Datum - Listing
3. Ellipsoid Elevation
   a. Value
   b. Unit of Measurement - Listing.
   c. Source - Listing.
   d. Datum - Listing.
4. Horizontal Datum - Listing.
5. Vertical Datum - Listing.

iii. Displaced Threshold Information
1. Coordinates
   a. Latitude
   b. Longitude
2. Elevation
   a. Value
   b. Unit of Measurement - Listing.
   c. Source - Listing.
   d. Datum - Listing.
3. Ellipsoid Elevation
   a. Value
   b. Unit of Measurement - Listing.
   c. Source - Listing.
   d. Datum - Listing.
4. Horizontal Datum - Listing.
5. Vertical Datum - Listing.
6. Feet Displaced from Threshold

iv. OIS Survey Information
1. OIS Code - Listing.
2. Date
3. Source - Listing.

v. Landing Length
1. Value
2. Unit of Measurement - Listing.

vi. Touchdown Zone (TDZ) Elevation
1. Value
2. Unit of Measurement - Listing.
3. Source - Listing
4. Datum - Listing.

vii. True Bearing – Calculated but can be over-ridden
viii. Gradient - Calculated but can be over-ridden
ix. IFR Indicator
x. Flight Inspection (FI) Length
xi. FI Height
xii. Associate Facilities

b. Landing Strip Information
i. Surface
1. Type - Listing.
2. Condition - Listing.

ii. Width
1. Value
2. Unit of Measurement - Listing.

iii. Physical Length
1. Value
2. Unit of Measurement - Listing.

5. User enters the information and selects to save the record in the system.
6. System adds the runway / helipad record and displays an appropriate message to the user.
7. If the system fails to add the runway / helipad record with the information as entered by the user, system displays an appropriate message to the user.

2.10.5 Alternate Flows

There are no alternate flows in this use case.

2.10.6 Sub-flows

2.10.6.1 Adding Lighting Information on a Runway / Helipad

1. User selects to navigate to add lighting information display.
2. System prompts the user to enter the information, including but not limited to, for the general lighting:
   a. Approach Lights
      i. Type - Listing.
      ii. Configuration - Listing.
      iii. Actual Length
      iv. Owner - Listing.
      v. Commission Date
      vi. Pilot Control Frequency
3. System prompts the user to select the value of the attribute 'Light Type'.
4. User selects the one of the values for the attribute 'Light Type'
5. System prompts the user to enter the information, including but not limited to, for the particular lighting type:
   a. PAPI / Other VGSI
      i. Type - Listing.
      ii. Owner - Listing.
      iii. Commissioned
         1. Date
         2. Angle
      iv. Threshold Crossing Height
      v. Downwind Bar
         1. Elevation
         2. Distance to Threshold
      vi. Reference Point
         1. Latitude
         2. Longitude
         3. Elevation
         4. Distance to Threshold
      vii. Pilot Control Frequency
      viii. High Angle
6. User enters the information and selects to save the record in the system.
7. System adds the lighting record and displays an appropriate message to the user.
8. If the system fails to add the lighting record with the information as entered by the user, system displays an appropriate message to the user.

2.10.6.2 Editing Lighting Information on a Runway / Helipad

1. User selects to navigate to edit lighting information display.

2. System displays the lighting information in edit display.
3. User makes the necessary changes to the information and selects to save the changed record in the system.
4. System saves the changed lighting record and displays an appropriate message to the user.
5. If the system fails to save the changed lighting record with the information as entered by the user, system displays an appropriate message to the user.

2.10.6.3 Viewing Lighting Information on a Runway / Helipad

1. User selects to navigate to view lighting information display.
2. System displays the lighting information in view display.

2.10.7 Key Scenarios

There are no key scenarios for this use case.

2.10.8 Post-Conditions

1. A new runway / helipad record is added to the system and is searchable.

2.10.9 Extension Points

There are no extension points for this use case.

2.10.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Runway / Helipad.

2.10.11 Additional Information

There is no additional information for this use case.

2.10.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to clear the entire user entered information and any dependent information before record is added to the system.
2. If the user navigated to add runway / helipad from add airport / heliport, system will provide an ability to navigate to add airport / heliport display from the add runway / helipad display.
3. If the user navigated to add runway / helipad from edit airport / heliport, system will provide an ability to navigate to edit airport / heliport display from the add runway / helipad display.
4. Following attribute are not relevant for a helipad and will not be captured in the system for helipad:
    a. Runway Information
        i. General Information
            1. Runway Visual Range (RVR)
                a. Touchdown - Listing.
                b. Mid-point - Listing.
                c. Rollout - Listing.
            2. Runway Declared Distance
                a. TORA
                b. TODA
                c. ASDA
                d. LDA
                e. Remarks

ii. Displaced Threshold Information
    1. Coordinates
        a. Latitude
        b. Longitude
    2. Elevation
    3. Ellipsoid Elevation
        a. Value
        b. Unit of Measurement - Listing.
        c. Source - Listing.
        d. Datum - Listing.
    4. Horizontal Datum - Listing.
    5. Vertical Datum - Listing.
iii. Touchdown Zone (TDZ) Elevation
    1. Value
    2. Unit of Measurement - Listing.
    3. Datum - Listing.
iv. True Bearing
v. Feet Displaced from Threshold
vi. Gradient
vii. Flight Inspection (FI) Length
viii. FI Height

5. The value for the following attributes will be geodetically calculated
    a. Landing Length → Value (Calculated value can be over-ridden)
    b. True Bearing
    c. Feet Displaced from Threshold (Calculated value can be over-ridden)
    d. Gradient
6. Helipad Identifier will be system generated as 00H, 01H ...sequentially on a new helipad record. This will be over-writable by the user.
7. The attribute 'Runway Use Category' will have following options (including, but not limited to):
    a. Runway
    b. Runway / Helipad
    c. Helipad
8. If the user selects the value of 'Runway Use Category' as Runway or Runway / Helipad, the AIRNAV Runway Identifier will be required
9. If the user selects the value of 'Runway Use Category' as Helipad, the AIRNAV Runway Identifier will not be required and will not be available for entry by user.
10. If the user selects the value of 'Runway Use Category' as Runway or Runway / Helipad, system will automatically populate some of the reverse runway information based on the information entered by data specialist for the runway.
11. If the attribute value for 'AIRNAV Runway Identifier - Number' does not match with the attribute value for 'True Bearing', pop up a message asking whether the AIRNAV Runway Identifier - Number is correct to the end-user. The range of true bearing to AIRNAV Runway Identifier - Number is given below:

#	True Bearing Range	AIRNAV Runway Identifier - Number
1	> 355 and <= 005	36
2	> 005 and <= 015	01
3	> 015 and <= 025	02
4	> 025 and <= 035	03
5	> 035 and <= 045	04
6	> 045 and <= 055	05
7	> 055 and <= 065	06
8	> 065 and <= 075	07
9	> 075 and <= 085	08
10	> 085 and <= 095	09

11	> 095 and <= 105	10
12	> 105 and <= 115	11
13	> 115 and <= 125	12
14	> 125 and <= 135	13
15	> 135 and <= 145	14
16	> 145 and <= 155	15
17	> 155 and <= 165	16
18	> 165 and <= 175	17
19	> 175 and <= 185	18
20	> 185 and <= 195	19
21	> 195 and <= 205	20
22	> 205 and <= 215	21
23	> 215 and <= 225	22
24	> 225 and <= 235	23
25	> 235 and <= 245	24
26	> 245 and <= 255	25
27	> 255 and <= 265	26
28	> 265 and <= 275	27
29	> 275 and <= 285	28
30	> 285 and <= 295	29
31	> 295 and <= 305	30
32	> 305 and <= 315	31
33	> 315 and <= 325	32
34	> 325 and <= 335	33
35	> 335 and <= 345	34
36	> 345 and <= 355	35

12. If the user selects the value of 'Runway Use Category' as Helipad, the Helipad Identifier will be required.
13. If the user selects the value of 'Runway Use Category' as Runway or Runway / Helipad, the Helipad Identifier will not be required
14. System will require either Helipad Identifier or AIRNAV Runway Identifier - Number for a runway / helipad record to exist.
15. If the user changes the vertical datum for threshold or displaced threshold, system will prompt the user to update the threshold or displaced threshold elevation and TDZ elevation information.
16. The attribute 'Lights → Light Type' will have following options (including, but not limited to):
    a. PAPI
    b. Other VGSI
17. The options available in the attribute 'PAPI / Other VGSI → Type' are dependent on the value selected by the user for the attribute 'Light Type'.
18. The value of the attribute 'Lights → PAPI/Other VGSI → Commissioned Angle' must be greater than -10 and less that 10.
19. The value of the attribute 'Lights → PAPI/Other VGSI → Threshold Crossing Height' must be within the range of 0 to 999.9.
20. The value of the attribute 'Lights → PAPI/Other VGSI → Reference Point → Distance to threshold' must be within the range of -1338 to 99,999.
21. System will provide an ability, for the users with appropriate access privileges, to:
    a. navigate back from the add lighting information display to add runway / helipad display.
    b. navigate back from the edit lighting information display to add runway / helipad display.
    c. navigate back from the view lighting information display to add runway / helipad display.

2.11 Use Case Specification: Edit Runway / Helipad

2.11.1 Brief Description

This use case describes the process of editing runway / helipad record of an existing airport / heliport record.

2.11.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.11.3 Pre – Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.11.2 above.
2. User must have the access privileges to edit runway / helipad information.
3. User has conducted 'Search Runway / Helipad' process and has selected a runway / helipad record for editing.
   OR
   User is performing 'Add Airport / Heliport' or 'Edit Airport / Heliport' process and selects to edit the runway / helipad associated with the airport / heliport.

2.11.4 Basic Flow of Events

1. User selects to navigate to edit runway / helipad display.
2. System invokes a service to the IFPA Enterprise requesting associated record(s) to the selected runway / helipad.
3. IFPA Enterprise finds no associated record(s) to the selected runway / helipad record.
4. System displays the selected runway / helipad record in the edit mode.
5. User makes the necessary changes to the record information and selects to save the changed runway / helipad record in the system.
6. System saves the runway / helipad record with the changed information and displays an appropriate message to the user.
7. If the system fails to save the runway / helipad record with the changed information as entered by the user, system displays an appropriate message to the user.

2.11.5 Alternate Flows

2.11.5.1 Associated Record(s) from IFPA Enterprise

1. User selects to navigate to edit display for a particular runway / helipad record.
2. System invokes a service to the IFPA Enterprise requesting associated record(s) to the selected runway / helipad.
3. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) to the selected runway / helipad record.
4. System does not allow the edit of the runway / helipad record and displays the list of associated record(s) and their respective owner(s) to the user.

2.11.6 Sub – flows

2.11.6.1 Adding Lighting Information to a Runway / Helipad

1. User selects to navigate to add lighting information display.

2. System prompts the user to enter the information, including but not limited to, for the general lighting:
    a. Lights
        i. Type - Listing.
        ii. Configuration - Listing.
        iii. Approach Lights Actual Length
        iv. Owner - Listing.
        v. Commission Date
        vi. Pilot Control Frequency
3. System prompts the user to select the value of the attribute 'Light Type'.
4. User selects the one of the values for the attribute 'Light Type'
5. System prompts the user to enter the information, including but not limited to, for the particular lighting type:
    a. PAPI / Other VGSI
        i. Type - Listing.
        ii. Owner - Listing.
        iii. Commissioned
            1. Date
            2. Angle
        iv. Threshold Crossing Height
        v. Downwind Bar
            1. Elevation
            2. Distance to Threshold
        vi. Reference Point
            1. Latitude
            2. Longitude
            3. Elevation
            4. Distance to Threshold
        vii. Pilot Control Frequency
        viii. High Angle
6. User enters the information and selects to save the record in the system.
7. System adds the lighting record and displays an appropriate message to the user.
8. If the system fails to add the lighting record with the information as entered by the user, system displays an appropriate message to the user.

2.11.6.2 Editing Lighting Information to a Runway / Helipad

1. User selects to navigate to edit lighting information display.
2. System displays the lighting information in edit display.
3. User makes the necessary changes to the information and selects to save the changed record in the system.
4. System saves the changed lighting record and displays an appropriate message to the user.
5. If the system fails to save the changed lighting record with the information as entered by the user, system displays an appropriate message to the user.

2.11.6.3 Viewing Lighting Information on a Runway / Helipad

1. User selects to navigate to view lighting information display.
2. System displays the lighting information in view display.

2.11.7 Key Scenarios

There are no key scenarios for this use case.

2.11.8 Post – Conditions

1. A changed runway / helipad record is saved to the system and is searchable based on the changed information.

2.11.9 Extension Points

There are no extension points for this use case.

2.11.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to Runway / Helipad.

2.11.11 Additional Information

There is no additional information for this use case.

2.11.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to:
    a. navigate back to search display from the edit display without making any changes to the selected record.
    b. cancel the changes made by user to the record before the changed record is saved to the system.
    c. navigate back from the add lighting information display to edit runway / helipad display.
    d. navigate back from the edit lighting information display to edit runway / helipad display.
    e. navigate back from the view lighting information display to edit runway / helipad display.
2. If the user navigated to edit runway / helipad from add airport / heliport, system will provide an ability to navigate to add airport / heliport display from the edit runway / helipad display.
3. If the user navigated to edit runway / helipad from edit airport / heliport, system will provide an ability to navigate to edit airport / heliport display from the edit runway / helipad display.
4. Refer to Business Rules section of the use case: 'Add Runway / Helipad' for other requirements.

2.12 Use Case Specification: View Runway / Helipad

2.12.1 Brief Description

This use case describes the process of viewing an existing runway / helipad record by a user.

2.12.2 Actors

Following are the actors for this use case:

1. Data Specialist

2.12.3 Pre-Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.12.2 above.
2. User has conducted 'Search Runway / Helipad' process and has selected a component record for viewing.
   OR
   User is performing 'Add Airport / Heliport' or 'Edit Airport / Heliport' or 'View Airport / Heliport' process and selects to view the runway / helipad associated with the airport / heliport.
3. User must have the access privileges to view runway / helipad information.

2.12.4 Basic Flow of Events

1. User selects to navigate to view display for a particular runway / helipad record.
2. System displays the selected runway / helipad record in the view mode.

2.12.5 Alternate Flows

There are no alternate flows in this use case.

2.12.6 Sub – flows

2.12.6.1 Viewing Lighting Information on a Runway / Helipad

1. User selects to navigate to view lighting information display.
2. System displays the lighting information in view display.

2.12.7 Key Scenarios

There are no key scenarios for this use case.

2.12.8 Post – Conditions

There are no post-conditions for this use case.

2.12.9 Extension Points

There are no extension points for this use case.

2.12.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to runway / helipad.

2.12.11 Additional Information

There is no additional information for this use case.

2.12.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to:
    a. navigate back to search display from the view display.
    b. create runway / helipad version from the view runway / helipad display.
    c. navigate back from the view lighting information display to view runway / helipad display.
2. If the user navigated to view runway / helipad from add airport / heliport, system will provide an ability to navigate to add airport / heliport display from the view runway / helipad display.
3. If the user navigated to view runway / helipad from edit airport / heliport, system will provide an ability to navigate to edit airport / heliport display from the view runway / helipad display.
4. If the user navigated to view runway / helipad from view airport / heliport, system will provide an ability to navigate to view airport / heliport display from the view runway / helipad display.

2.13 Use Case Specification: Delete Runway / Helipad

2.13.1 Brief Description

This use case describes the process of deleting an existing working or pending runway / helipad record by a user.

2.13.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.13.3 Pre-Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.13.2 above.
2. User has conducted 'Search Runway / Helipad' or 'Add Airport / Heliport' or 'Edit Airport / Heliport' process and selected a runway / helipad record for deleting.
3. User must have the access privileges to delete runway / helipad information.

2.13.4 Basic Flow of Events

1. User selects to delete a particular runway / helipad record from AIRNAV.
2. System invokes a service to the IFPA Enterprise requesting associated record(s) to the selected runway / helipad.
3. IFPA Enterprise finds no associated record(s) to the selected runway / helipad record.
4. System deletes the selected runway / helipad record from the system and displays an appropriate message to the user.
5. If the system fails to delete the selected runway / helipad record, system displays an appropriate message to the user.

2.13.5 Alternate Flows

2.13.5.1 Associated Record(s) from IFPA Enterprise

1. User selects the runway / helipad record to be deleted
2. User selects to delete the selected runway / helipad record from AIRNAV.
3. System invokes a service to the IFPA Enterprise requesting associated record(s) to the selected runway / helipad record.
4. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) to the selected runway / helipad record.
5. System does not allow the delete of the runway / helipad record and displays the list of associated record(s) and their respective owner(s) to the user.

2.13.6 Sub – flows

There no sub-flows for this use case.

2.13.7 Key Scenarios

There are no key scenarios for this use case.

2.13.8 Post-Conditions

1. The selected runway / helipad record will be deleted from the system.
2. The deleted runway / helipad record will not be searchable in the system.

2.13.9 Extension Points

There are no extension points for this use case.

2.13.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to runway / helipad.

2.13.11 Additional Information

There is no additional information for this use case.

2.14 Use Case Specification: Activate Runway/ Helipad

2.14.1 Brief Description

This use case describes the process of changing the status of a 'Pending' Runway / Helipad record to 'Active'.

2.14.2 Actors

Following are the actors for this use case:

1. AIRNAV - Internal

2.14.3 Pre-Conditions

1. Runway / Helipad record(s) in 'Publication' model with status 'Pending'.

2.14.4 Basic Flow of Events

1. System retrieves the version of runway / helipad records in 'Publication' model with status 'Pending' and publication date as the system date.
2. System sets the status of currently 'Active' version of the airport / heliport records, retrieved in step # 1 above, to 'History'.
3. System sets the status of the retrieved version of runway / helipad records, as per step # 1 above, to 'Active'.

2.14.5 Alternate Flows

There are no alternate flows for this use case.

2.14.6 Sub-flows

There are no sub-flows for this use case.

2.14.7 Key Scenarios

There are no key scenarios for this use case.

2.14.8 Post-Conditions

1. All the currently 'Active' version of the runway / helipad records within the 'Publication' model, whose 'Pending' version will become active, are converted to 'History' version of the runway / helipad records.
2. All the 'Pending' version of the runway / helipad records within the 'Publication' model with publication date as system date are converted to 'Active' version of the runway / helipad records.

2.14.9 Extension Points

There are no extension points for this use case.

2.14.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to Runway / Helipad.

2.14.11 Additional Information

There is no additional information for this use case.

2.15 Use Case Specification: Create Runway / Helipad Version

2.15.1 Brief Description

This use case describes the process of creating a new version of an existing runway / helipad record by a user.

2.15.2 Actors

Following are the actors for this use case:

1. Data Specialist

2.15.3 Pre-Conditions

1. User must be logged in the system as one of the actors mentioned in section 2.14.2 above.
2. User has conducted the 'View Runway / Helipad' process for the selected runway / helipad record.
3. User must have the access privileges to create a new version of the existing runway / helipad information.

2.15.4 Basic Flow of Events

1. User selects to create a new version of the runway / helipad record.
2. System prompts user to select the either working or pending status of the new version of the runway / helipad record.
3. System creates a new runway / helipad record with status as selected and displays the new runway / helipad record in an edit mode.
4. User makes the necessary changes to the information of the newly created version of the runway / helipad record and selects to save the runway / helipad record in the system.
5. System saves the new version of the runway / helipad record with the changed information and displays an appropriate message to the user.
6. If the system fails to save the new version of the runway / helipad record with the changed information as entered by the user, system displays an appropriate message to the user.

2.15.5 Alternate Flows

There are no alternate flows for this use case.

2.15.6 Sub-flows

There no sub-flows for this use case.

2.15.7 Key Scenarios

There are no key scenarios for this use case.

2.15.8 Post-Conditions

1. A new version of the record with status either as 'Working' or 'Pending' is saved in the system.

2.15.9 Extension Points

There are no extension points for this use case.

2.15.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to runway / helipad.

2.15.11 Additional Information

There is no additional information for this use case.

2.16 Use Case Specification: Change Active Runway / Helipad to History

2.16.1 Brief Description

This use case describes the process of pushing an existing active runway / helipad record to history status by system automatically.

2.16.2 Actors

Following are the actors for this use case:

1. AIRNAV - Internal

2.16.3 Pre-Conditions

1. Runway / Helipad record(s) in 'Publication' model with status 'Pending'.
   OR
   Existing active runway / helipad record(s) with effective end date.

2.16.4 Basic Flow of Events

1. System retrieves the version of runway / helipad record(s) in 'Publication' model with status 'Pending' and publication date as the system date.
2. System retrieves the version of runway / helipad record(s) in 'Publication' model with status 'Active' and effective end date as the system date.
3. System sets the status of currently 'Active' version of the runway / helipad record(s), retrieved in step # 1 and # 2 above, to 'History'.

2.16.5 Alternate Flows

There are no alternate flows for this use case.

2.16.6 Sub-flows

There are no sub-flows for this use case.

2.16.7 Key Scenarios

There are no key scenarios for this use case.

2.16.8 Post-Conditions

1. All the currently 'Active' versions of the runway / helipad record(s) within the 'Publication' model, whose 'Pending' version will become active as their publication date is same as the system date, are converted to 'History' version of the runway / helipad record(s) and the effective end date is set to the system date.
2. All the 'Active' versions of the runway / helipad record(s) whose effective end date is same as system date are converted to 'History' version of the runway / helipad record(s).

2.16.9 Extension Points

There are no extension points for this use case.

2.16.10 Special Requirements

1. Refer to Supplementary Specifications for requirements related to runway / helipad.

2.16.11 Additional Information

There is no additional information for this use case.

Airport Navigation Aid Database Application 2.0 (AIRNAV 2.0)

Expanded Service Volume (ESV) Use Cases and Business Rules

Revision History

#	Version	Date	Description	By
1	V00R01	12/09/2007	Draft Version of the Document	Frances K. Hubbard
2	V01R00	12/20/2007	First Version of the Document	Frances K. Hubbard / Vishal Maheshwari

Table of Content

1 Introduction

This document fully describes the functionality of Maintain Expanded Service Volume (ESV) module within the AIRNAV 2.0 system. These requirements are captured in the AVN-iSM Use Case format. It details the needs the system must address to capture and provide data related to AIRNAV 2.0 system.

Refer to AIRNAV interface control document for implementation requirements related to Web Services.

1.1 Abbreviations and Acronyms

Refer the document AIRNAV - Glossary for abbreviations, acronyms and other general terminology used in the AIRNAV documentation.

2 Use Cases

The Maintain ESV module will include following use cases:

1. Search ESV
2. Add ESV
3. Edit ESV
4. View ESV
5. Delete ESV

The details of each of the above mentioned use cases are described in this document.

2.1 Use Case Specification: Search ESV

2.1.1 Brief Description

This use case describes the process of searching for ESV data record(s) in ESVMS system.

2.1.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.1.3 Pre – conditions

1. User must be logged in the system as one of the actors mentioned in section 2.1.2 above.
2. User must have the access privileges to search ESV information.

2.1.4 Basic Flow of Events

1. User invokes the 'Search ESV' functionality in the system.
2. System prompts the user to provide the search criteria for searching ESV, including but not limited to:
    a. NAVAID Identifier
    b. NAVAID Component Type – Listing.
    c. ESVMS Identifier
    d. Radial
    e. Distance
    f. Minimum Altitude
    g. Maximum Altitude
3. User enters a value for any combination of search criterion at the same time and selects to retrieve the records.
4. System sends a search request to IFPA Enterprise with the search criteria entered by the user.
5. System receives a complete listing of ESV records from ESV Management System, which satisfy the user entered search criteria, sorted by their identifier in a tabular format. The information displayed for each ESV, including but not limited to:
    a. ESVMS Identifier
    b. NAVAID Identifier
    c. NAVAID Component Type
    d. Radial
    e. Distance
    f. Minimum Altitude
    g. Maximum Altitude
6. If no records satisfy the user entered search criteria, system displays an appropriate message to the user.

2.1.5 Alternate Flows

There are no alternate flows in this use case.

2.1.6 Sub – flows

There are no sub-flows for this use case.

2.1.7 Key Scenarios

There are no key scenarios for this use case.

2.1.8 Post – conditions

There are no post conditions for this use case.

2.1.9 Extension Points

There are no extension points for this use case.

2.1.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to ESV.

2.1.11 Additional Information

1. This Use Case must be designed and developed in partnership with the owners of the ESV Management System.

2.1.12 Business Rules

1. For each ESV record in the search result, system will provide an ability, for users with appropriate access privileges, to directly navigate to:
    a. edit display of that ESV record
    b. view display of that ESV record
2. On the search result, the system will provide an ability to directly navigate to the add ESV display for users with appropriate access privileges.

2.2 Use Case Specification: Add ESV

2.2.1 Brief Description

This use case describes the process of adding an ESV data record(s) in the ESV Management System through AIRNAV.

2.2.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.2.3 Pre – conditions

1. User must be logged in the system as one of the actors mentioned in section 2.2.2 above.
2. User has conducted 'Search ESV' process and found no matching records.
3. User must have the access privileges to add ESV information.

2.2.4 Basic Flow of Events

1. User selects to navigate to the add display.
2. System prompts the user to enter the information, including but not limited to, that satisfy the ESV Management System:
    a. NAVAID Identifier
    b. NAVAID Component Type
    c. Radial
    d. Distance
    e. Minimum Altitude
    f. Maximum Altitude
3. System sends an add request to IFPA Enterprise with the information entered by the user.
4. ESV Management System adds the ESV data and returns an ESVMS Identifier as a response.
5. System stores the ESVMS Identifier at the NAVAID Component Level and displays an appropriate message to the user.
6. If the system or ESV Management System fails to add the ESV record with the information as entered by the user, system displays an appropriate message to the user.

2.2.5 Alternate Flows

There are no alternate flows in this use case.

2.2.6 Sub – flows

There are no sub-flows for this use case.

2.2.7 Key Scenarios

There are no key scenarios for this use case.

2.2.8 Post – conditions

1. A new ESV record is added to the ESV Management System and is searchable.
2. The ESVMS Identifier as returned by the ESV Management System is stored in the system at NAVAID Component level.

2.2.9 Extension Points

There are no extension points for this use case.

2.2.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to ESV.

2.2.11 Additional Information

1. This Use Case must be designed and developed in partnership with the owners of the ESV Management System.

2.2.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to:
    a. navigate back to search display from the add display without adding a new record.
    b. clear the entire user entered information and any dependent information before record is added to the system.

2.3 Use Case Specification: Edit ESV

2.3.1 Brief Description

This use case describes the process of editing and ESV record in the ESV Management System through AIRNAV.

2.3.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.3.3 Pre – conditions

1. User must be logged in the system as one of the actors mentioned in section 2.3.2 above.
2. User has conducted 'Search ESV' process and selected an ESV record for editing.
3. User must have the access privileges to edit ESV information.

2.3.4 Basic Flow of Events

1. User selects to navigate to edit display for a particular ESV record.
2. System displays the selected ESV record in the edit mode.
3. User makes the necessary changes to the record information and selects to save the changed ESV record in the system.
4. System invokes a service to the IFPA Enterprise requesting associated record(s) to the requested record.
5. IFPA Enterprise finds no associated record(s) to the selected ESV record.
6. System saves the ESV record with the changed information and displays an appropriate message to the user.
7. If the system or ESV Management System fails to update the selected ESV record, system displays an appropriate message to the user.

2.3.5 Alternate Flows

2.3.5.1 Associated Record(s) from IFPA Enterprise

1. User selects to navigate to edit display for a particular ESV record.
2. System displays the selected ESV record in the edit mode.
3. User makes the necessary changes to the record information and selects to save the changed ESV record in the system.
4. System invokes a service to the IFPA Enterprise requesting associated record(s) to the requested record.
5. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) that are linked to the record.
6. System does not allow the update of the ESV record and displays the list of associated record(s) and their respective owner(s) to the user.

2.3.6 Sub – flows

There are no sub-flows for this use case.

2.3.7 Key Scenarios

There are no key scenarios for this use case.

2.3.8 Post – conditions

1. A changed ESV record is saved in the ESV Management System and is searchable based on the changed information.

2.3.9 Extension Points

There are no extension points for this use case.

2.3.10 Special Requirements

1. Refer to Business Rules and Supplementary Specifications for requirements related to ESV.

2.3.11 Additional Information

1. This Use Case must be designed and developed in partnership with the owners of the ESV Management System.

2.3.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to
    a. navigate back to search display from the edit display without making any changes to the selected record.
    b. cancel the changes made by user to the record before the changed record is saved to the system.
2. Refer to Business Rules section of the use case: 'Add ESV' for other requirements.

2.4 Use Case Specification: View ESV

2.4.1 Brief Description

This use case describes the process of viewing an existing ESV record in the ESV Management System though AIRNAV.

2.4.2 Actors

Following are the actors for this use case:

1. Data Specialist

2.4.3 Pre - conditions

1. User must be logged in the system as one of the actors mentioned in section 2.4.2 above.
2. User has conducted 'Search ESV' process and selected an ESV record for viewing.
3. User must have the access privileges to view ESV information.

2.4.4 Basic Flow of Events

1. User selects to navigate to view display for a particular ESV record.
2. System displays the selected ESV record in the view mode.

2.4.5 Alternate Flows

There are no alternate flows in this use case.

2.4.6 Sub - flows

There are no sub-flows for this use case.

2.4.7 Key Scenarios

There are no key scenarios for this use case.

2.4.8 Post - conditions

There are no post-conditions for this use case.

2.4.9 Extension Points

There are no extension points for this use case.

2.4.10 Special Requirements

1. Refer to Business Rules section and Supplementary Specifications for requirements related to ESV.

2.4.11 Additional Information

1. This Use Case must be designed and developed in partnership with the owners of the ESV Management System.

2.4.12 Business Rules

1. System will provide an ability, for users with appropriate access privileges, to:
    a. navigate back to search display from the view display.

2.5 Use Case Specification: Delete ESV

2.5.1 Brief Description

This use case describes the process of deleting ESV record in the ESV Management System though AIRNAV. The delete here refers to the physical deletion of the ESV record.

2.5.2 Actors

Following are the actors for this use case:

1. Data Specialist
2. Web Services User

2.5.3 Pre – conditions

1. User must be logged in the system as one of the actors mentioned in section 2.5.2 above.
2. User has conducted 'Search ESV' process and selected a ESV record for deleting.
3. User must have the access privileges to delete ESV information.

2.5.4 Basic Flow of Events

1. User invokes the 'Delete ESV' functionality in the system.
2. User selects to delete a particular ESV record from AIRNAV and ESVMS.
3. System invokes a service to the IFPA Enterprise requesting associated record(s) to the requested record.
4. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) that are linked to the record.
5. If no associated records are returned, the system formats an XML request for deleting ESV data and forwards to ESVMS system.
6. The ESVMS system deletes existing ESV data and returns an appropriate response.
7. System formats an appropriate response to the user.

2.5.5 Alternate Flow 1

1. User invokes the 'Delete ESV' functionality in the system.
2. User selects to delete a particular ESV record from AIRNAV and ESVMS.
3. System invokes a service to the IFPA Enterprise requesting associated record(s) to the requested record.
4. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) that are linked to the record.
5. If any associated record is returned, the system formats the list of impacted records for display to the user.
6. System returns impact list and an appropriate response to the user.

2.5.6 Alternate Flow 2

1. User invokes the 'Delete ESV' functionality in the system.
2. User selects to delete a particular ESV record from AIRNAV and ESVMS.
3. System invokes a service to the IFPA Enterprise requesting associated record(s) to the requested record.
4. IFPA Enterprise returns a list of associated record(s) and their respective owner(s) that are linked to the record.
5. If no associated records are returned, the system formats an XML request for deleting ESV data and forwards to ESVMS system.
6. Data fails validation and ESVMS system returns a negative response.
7. System formats an appropriate response to user.

2.5.7 Sub – flows

There are no sub-flows for this use case.

2.5.8 Key Scenarios

There are no key scenarios for this use case.

2.5.9 Post – conditions

1. An ESV record is deleted from the ESMVS system.
2. An ESV record is deleted from AIRNAV.

2.5.10 Extension Points

There are no extension points for this use case.

2.5.11 Special Requirements

This Use Case must be designed and developed in partnership with the owners of the ESVMS system.

2.5.12 Additional Information

There is no additional information for this use case.

2.5.13 Business Rules

There are no business rules for this use case.